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A CONSUL ON RUBBER PLANTING.

A REPORT entitled "Rubber Culture in Mexico," signed by Edward M. Conley, "vice and deputy consul general" at Mexico City, and published by the government at Washington under date of June 14, 1904, will doubtless have a good effect in strengthening the demand for a higher standard of efficiency in the consular service. The first effect, however, will be to discredit, in the minds of uninformed readers, the work of many honest citizens of the United States, who have invested much money in Mexico, in a branch of planting enterprise for which there is a pressing demand, and which promises profitable returns so long as the world needs rubber.

Mr. Conley's excuse for his report is the large number of letters of inquiry received at his consulate "on the subject of rubber culture in Mexico." Such letters deserve to be answered, and, in view of the importance of the subject to American citizens, the government should be represented in Mexico by a consul informed by personal observation in regard to what is being attempted in the way of rubber planting there, and the results to date. Instead of which we have here about 2000 words of opinions by a consul who lacks the courage to write: "I know nothing of the subject."

To illustrate the character of the Conley report, a few paragraphs may be introduced here, with the remark that, while they may have been written in all sincerity by the consul, this fact does not justify the distribution of the report by the government without giving it any editorial supervision. Here is a specimen opinion:

Theoretically, rubber culture is a very alluring proposition, but thus far it has never yielded any practical results. It was experimented with for years in other countries before its cultivation was undertaken in Mexico, and, according to a recent report of the United States department of agriculture, the experiments have always been failures. [The title of this report, and the chapter and page, are not given.—THE EDITOR.] There is as yet no good reason to believe that its cultivation in Mexico will prove any more successful than it has in other countries.

If rubber cultivation in Mexico proves one half as successful as on the older plantations in the Far East visited recently by the Editor of THE INDIA RUBBER WORLD, the planters there will have no reason to feel disappointed. Moreover, there are plantations in Mexico as well advanced now as were any in Ceylon at the same age. Again, the consul writes:

The cultivation of rubber is based upon the supposition that the supply of wild rubber will one day be exhausted or greatly curtailed, but this hypothesis is entirely uncertain. The regions from which the supply now comes are still largely unexplored, geographically and botanically, and the discovery of new areas of rubber bearing vegetation and of new rubber producing species is not infrequent and may continue for many years. Moreover, the progress of science may enable the extraction of rubber from juices not now utilized, and the discovery of such a process might change the entire aspect of the rubber industry. There is always the possibility, also, of the discovery of a substitute for rubber, such as its synthetical manufacture from turpentine, which has been experimented with. Thus a slight increase in chemical knowledge might at any time change the whole situation.

It is not safe to be too positive about what will not happen in future. When the north pole is discovered it may prove to be the gateway to millions of tons of fine Pará

rubber, stored away in the center of the earth, and may Mr. Conley be there to report on it! But the world needs rubber *now*, in more plentiful supplies than any known forest areas can be made to furnish, and without waiting until now unknown countries or islands are discovered, or unknown chemists arise and produce substitutes. And if Mr. Conley is so hopeful in regard to these possibilities, why not allow the possibility that millions of rubber trees now planted may in a few years be yielding as liberally as many thousands of trees on plantations are already doing?

Consul Conley refers to "fake rubber plantation companies", and it does not appear from his report that there are rubber plantations of any other kind, in Mexico or elsewhere. Indeed, he asserts:

The first experiments in rubber culture were naturally made with the Para rubber tree, the one best known. It was planted in regions which were apparently exact duplicates of those where the wild tree grows, but for some reason the experiments were absolute failures. A number of experiments were made in different countries with various rubber producing species, all with a like result.

There are so called rubber planting companies whose methods cannot be condemned too strongly. There are also "fake" gold mining companies, but the United States government does not for this reason issue official declarations that gold cannot be mined. The only mitigating circumstance about the Conley report is that it can hardly nullify the work of the national department of agriculture, the reports of which on rubber culture are attracting attention around the world and affording encouragement to legitimate planting interests.

THE RUBBER INDUSTRY OF AUSTRIA is confronted by conditions which are neither new nor peculiar to that country. The home demand for goods is not large enough for the factory capacity, or to afford satisfactory returns on the capital invested, while the tariff barriers in many directions impede export trade. To make matters worse, the high cost of raw materials cannot be compensated for by advancing the price of manufactured goods. The Austrian remedy for these conditions, however, is new, or at least it is proposed to carry out the remedial policy to a greater extent than has been attempted in any other country. The manufacturers have created a central board of control, to regulate production and prices, and placed themselves under bonds to respect the agreement which they have signed to be guided by this secret agency. It happens that the Austrian rubber industry is in the hands of a few concerns, and that its development is at a slow rate, which conditions render concert of action easier than in a country like the United States, with hundreds of factories, large and small, and new ones springing up every year. The total imports of crude rubber into the empire for 1903 amounted to only 2,757,480 pounds, of the value of \$1,782,410, and the control of a business of this extent ought not to prove difficult. But what may prove a most inconvenient feature is the fact that some of the Austrian rubber factories are branches of German establishments, of such importance that the German proprietors had to be included in the *Kartel*, and on their own terms. That is, they objected to the forms of Austrian law, and dictated that the headquarters of the combination should be in Berlin. Austrian factories have never yet been able to supply the home demand for rubber goods against foreign competition, the imports for 1903 amounting to \$2,801,329 in value, against exports of only \$2,292,657. Largely more than half the imports come from

Germany, and, as has been intimated, a considerable portion of the home production is in German hands. Now that the actual control of even the Austrian owned factories has been removed to Berlin, and funds deposited there, as evidence of the good faith of the Austrian parties to the new agreement, it looks very much to an outsider as if the rubber industry of that country is under too many restrictions to grow any, even if the result of the *Kartel* should be to stop the further loss of money.

NOT SO LONG AGO it was asserted that an ocean cable could not be built in the United States, because—well, because none had been built here, or because the English cable makers had gained such a start that they would always keep the lead. This view seemed strengthened when the German Atlantic cable company placed the order for their first cable with an English works. But the past month has seen the opening of their second Borkum-New York cable, made in Germany, within less than two years, and in a factory which had never before turned out a deep sea cable. So long as the new cable holds out to work it will be evidence that success in any industry is not confined necessarily to any geographical limits, or monopolized by the first concerns to become established in it.

THERE IS BITTER RESENTMENT IN UTAH. To be more definite, it lies deep in the heart of Mr. William Sunderland, a citizen of Utah, who claims to be the only true original discoverer of the "rubber weed" in his state, though the honor is claimed for others. Mr. Sunderland writes to the newspapers that he believes "a personal agency" to be at work to deprive him of credit for the discovery, and it would not be surprising if he should do something about it. But things might be worse with Mr. Sunderland. Suppose, for instance, his enemy were impersonal; it might be much harder to deal with.

ONE OF THE CONGO RUBBER TRADING COMPANIES is reported to have set aside some of its profits for last year, to be invested in a plantation of *Hevea* rubber in the Malay states. Does this foreshadow the beginning of the end of large yields and large profits in King Leopold's rubber regions? The company referred to, by the way, is expected to pay a dividend this year of only 100 per cent. as against 425 per cent. a few years ago.

AN OCEAN CABLE "MADE IN GERMANY."

THE laying of the second German cable from Borkum, in the North sea, to New York, via the Azores, was completed on June 2, the final splice being made off Fayal. Like the first cable, laid in 1900, it is owned by the Deutsch-Atlantische Telegraphen-Gesellschaft (Cologne), with close connections with the Commercial Cable Co. (New York). The length of the route is 4142 nautical miles. The first cable, however, was built and laid by the Telegraph Construction and Maintenance Co., Limited (London), Germany at that time being without facilities for such work. But the second cable was built at Nordenham on the Weser, by the Norddeutsche Seekabelwerke Actiengesellschaft, and laid by its 5000 ton cable steamer *Stephan*, which is also a German production. The contract was signed for the new cable on May 31, 1902, and work was begun on it in July, so that its completion required less than two years.

The German government is now discussing plans for cables to connect their Pacific possessions, and appears likely to become an important factor in the extension of submarine telegraphy.

REDUCED TAX ON ACRE RUBBER.

THE United States consul at Pará, Brazil—Colonel Louis H. Aymé—reported under date of May 10:

"Until lately the state of Amazonas has imposed an export tax on all rubber coming into its jurisdiction from up the Amazon river. Now the Federal government has erected Acre into a territory which is to be governed by the Federal government. Naturally, all the revenues therefrom will be collected and used by the Federal government. The export tax has been reduced from 20 per cent. of the declared value to 15 per cent., and the owner or purchaser of rubber grown outside of the state of Amazonas is at liberty to ship his rubber from Manáos or Pará, as he pleases.

"The amount of rubber affected by the new regulation is estimated at not less than 7000 tons. Of this quantity, it is believed that 5000 tons will come to Pará. Five thousand tons of rubber are worth about \$9,000,000, and it will be seen, therefore that this will mean a considerable increment to the business activity of this city, which has declined a good deal in the last few years, while it will mean a corresponding diminution of the importance of Manáos.

"I do not believe that the reduction in value in the export tax will affect the invoice of foreign price of rubber; if anyone profits thereby, it will be the rubber collector, or first seller. He may, and probably will, receive nearly all of the difference in tax in an enhanced price for his merchandise."

Under date of June 1, Kanthack & Co., of Pará, reported as follows, indicating a conflict of jurisdiction over the taxing of rubber from the Acre:

"In Manáos receivers have had to store 400 tons in consequence of a dispute, which has arisen between the state and the Central government, concerning duties which the latter claims, but the former refuses to acknowledge as pertaining to the higher authority, and until this question is settled the rubber cannot be disposed of." A later report said: "The rubber retained at Manáos by the State has been released, under protest against the Federal government."

The *Brazilian Review* (Rio Janeiro) of May 24 stated that the Amazonas state government at Manáos, where an export duty of 23 per cent. is imposed, had protested to the Federal government against a rate of only 15 per cent. being charged on rubber from the Acre district, on the ground that such policy would encourage the smuggling of rubber from Amazonas into the Acre territory. Hence the Federal minister of finance had decided that all rubber entering from the Purús or Juruá shall pay duties at the rate of 23 per cent., the excess of 8 per cent. to be refunded to the owner upon proof of the origin of his rubber in the Federal, or Acre, territory.

PROFITS ON CONGO RUBBER.

THE net profits for 1903 of the Société Anversoise pour le Commerce au Congo, based principally upon trading in rubber in the Congo Free State, were stated at the general meeting at Brussels, on June 6, to have been 2,095,897 francs [= \$404,508.12]. A dividend of 500 francs per share was declared. There are 3400 shares "without designation of value," though commonly reckoned at 500 francs each, one half the shares being held by the state. With the shares at 500 francs, the last dividend amounts to 100 per cent., which is double the rate for the preceding year. The operations of the company for the last two years have been:

	1902.	1903.
Caoutchouc collected.....kilos	476,250	366,200
Ivory collected.....	10,608	10,870

The Belgian journal, *La Chronique Coloniale*, announced recently that the Société A B I R, one of the large *concessionaire* trading companies dealing in Congo rubber, would declare a dividend, payable July 1, of 500 francs per share. This would be equal to 100 per cent. The *Chronique* mentions that the amount would have been greater, had the directors not considered it advisable to set aside a portion of the profits to take over an interest in a rubber plantation in the Malay states. Last year the dividend was reported in these pages at 850 francs per share. There are 2000 shares, of 500 francs each, one half owned by the Congo Free State. On May 6 these shares were quoted at 13,950 francs each; on May 1 last year, the figure was 15,350 francs; in 1901 there were sales as high as 28,925 francs, but the dividend then was over 400 per cent.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for April, 1904, and the first ten months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
April, 1904.....	\$ 66,516	\$ 25,186	\$ 240,160	\$ 331,862
July-March.....	667,567	946,439	1,796,522	3,410,528
Total.....	\$734,083	\$971,625	\$2,036,682	\$3,742,390
Total, 1902-03...	680,147	983,044	1,881,773	3,544,964
Total, 1901-02...	514,470	939,671	1,437,099	2,891,240
Total, 1900-01...	448,085	662,971	1,432,124	2,543,180
Total, 1899-00...	439,220	329,686	1,133,094	1,902,000

DETAILS OF RUBBER FOOTWEAR EXPORTS.

	1899-1900.	1900-01.	1901-02.	1902-03.	1903-04.
Pairs exported....	597,614	1,349,063	2,367,611	2,153,127	2,117,043
Value.....	\$329,686	\$662,971	\$939,671	\$983,044	\$971,625
Average per pair..	55.1 c.	49.1 c.	39.7 c.	45.7 c.	45.9 c.

Exports of reclaimed rubber have been as follows, in value: \$508,639 for first ten months of this fiscal year; \$350,848 for same months of last year; \$318,711 for ten months of 1901-02.

GUTTA-PERCHA ROD FREE OF DUTY.

IN a decision written by Byron S. Waite, the board of General Appraisers [United States customs service] at New York, on April 12, sustained a protest by Connellan Brothers, of Boston, against the assessment of duty at 35 per cent. of an importation by the Kempshall Manufacturing Co., as manufactures of Gutta-percha. It was claimed by the importers to be free of duty, as "crude Gutta-percha." The decision reads:

"The article is Gutta-percha molded into cylindrical rods about an inch and a half in diameter, having a chocolate color, and was imported by the Kempshall Manufacturing Co. for use in the manufacture of golf balls. It appears from the evidence that the importing company ordered the goods as crude Gutta-percha; that while some of the impurities have evidently been removed, the product has to undergo further elaborate purifying processes before it is suitable for making golf balls. The importers testified that the form in which the goods are imported is rather a disadvantage than otherwise, and that, so far as their purposes are concerned, it does not differ in material from Gutta-percha in the form of rough slabs, which they also import. None of these facts were controverted at the hearing. Gutta-percha, partially cleaned or purified, has been hitherto held by the board to be crude Gutta-percha within the meaning of paragraph 570. - - - Upon the record in the case now before it and the evidence in the cases cited, the board is led to the conclusion that the merchandise in question is, for commercial purposes, crude Gutta-percha.

THE AUSTRIAN RUBBER TRUST.

JULY 1 is the date fixed for the going into effect of the "Kartel" (agreement) of the rubber manufacturers of Austria-Hungary, the negotiations for which have been in progress for some months past. To make the proposed combination effective, it was essential that the German companies having branch factories in Austria lend their aid, and this was refused on the ground that the laws of the latter country could not be invoked to guarantee the carrying out of the agreements of the combination. Hence it agreed finally to establish headquarters at Berlin, so that the affairs of the combination shall be subject to German law. All the factories coming under the provisions of the Kartel, therefore, have been required to deposit in Berlin bonds to guarantee the payment of any fines or penalties that may be imposed. A bureau of control, empowered to exercise a close scrutiny on the working of the Kartel, is located at Vienna, the members of which are pledged to secrecy. The general affairs of the combination are governed by an executive committee, composed of representatives of the Vereinigte Gummiwaaren-Fabriken Harburg-Wien (as chairman), the Oesterreichisch-Amerikanische Gummifabriks Aktiengesellschaft (vice chairman), and the firm Josef Reithoffer's Söhne, holding proxies of Josef Miskolczy & Co. and the Berlin-Frankfurter Gummiwaaren-Fabriken.

The board of control is to ascertain the amount of production of the various Austro-Hungarian rubber factories last year, and then to allot the relative proportion of goods to be produced by them under the new agreement. It is also proposed to regulate prices, which are now considered too low as compared with the cost of raw materials, though advances must necessarily be limited, in view of the fact that the Austrian tariff on imports does not now afford more than a moderate protection, especially against the competition of German factories. There will be, however, a minimum price named for the various articles of rubber manufacture, coming under the provisions of this agreement.

One of the objects of the combination is to specialize production in the various factories, with respect to leading articles of manufacture. For example, the Oesterreichisch-Amerikanische Gummifabriks Aktiengesellschaft can enter into an agreement with the Vereinigte Gummiwaaren-Fabriken Harburg-Wien, whereby the latter secures the exclusive manufacture in Austria-Hungary of rubber footwear, leaving to the former the production of tires. It is understood, however, that no binding agreements of this character have yet been entered into. Several articles, including rubber balls, are not intended to be covered by such agreements.

The Oesterreichische Aktiengesellschaft für Gummi-Industrie, which was founded by the Vienna Union Bank, has been bought by the combination, the funds being supplied *pro rata* by the members. The company will go into liquidation, but the factory will continue in operation. The company is capitalized at 1,600,000 crowns [= \$324,800], the Union bank holding half the shares. The bank is also the principal creditor, the indebtedness being 1,900,000 crowns [= \$385,700]. The purchase price was 1,050,000 crowns for the factory and 500,000 crowns for materials on hand. The capital for continuing the factory will be supplied by Vienna banks for account of the members of the combination.

The competition in the industry in Austria has been further lessened by the liquidation of the Prager Gummiwaren-Fabrik Aktiengesellschaft, at Vysocan, founded in 1897, and the factory of which has been acquired by Oesterreichisch-Amerikanische company.

NEW TRADE PUBLICATIONS.

THE DIAMOND RUBBER CO. (Akron, Ohio) have issued a new Mechanical Catalogue, which is particularly full and complete in its descriptions and illustrations of the rubber goods lines produced by this company. Besides, the contents of the catalogue are well arranged, and the typographical details have been excellently executed. [5"×7". 128 pages.] —Sections of this book are to be brought out as separate catalogues, each devoted to a single line, one of which, relating to Belting and Packing, has reached us. It embraces numerous practical hints on the selection of belts and their care when put in use. The Diamond company make belts specially adapted for conveyor use, the equipment of sugar factories, use in oil wells, and other industrial requirements. These are all suitably described, together with a varied list of packings, also specially fitted for particular requirements. Prices are given. [5"×7". 32 pages.]

BOSTON WOVEN HOSE AND RUBBER CO. (Cambridge, Massachusetts) issue a series of well arranged and well made catalogues, each devoted to a single line of their products in mechanical rubber goods, or to the accessory lines. The excellent illustrations and the succinct descriptive matter in these catalogues cannot fail to be most helpful to the company's customers, or to those who may contemplate becoming such. Three new catalogues of the series are entitled:

F Brass Fittings. (For Hose.)

H Mats and Matting.

L Insulating and Friction Tapes.

The Brass Fittings catalogue deserves special mention for the variety and evident character of couplings, nozzles, sprinklers, and the like that are listed in it. The catalogues are uniformly 5¼"×7¼". —Another list from the same house embraces Rubber Bath Brushes for toilet use, which are offered in great variety; an attractive booklet. [6½"×4". 12 pages.]

ALSO RECEIVED.

THE Springfield Rubber Tire Co., New Haven, Connecticut. [= Descriptive price list of Springfield solid and cushion rubber tires.] 12 pages.

THE Akron Dental Rubber Co., Akron, Ohio. = Arthur C. Squires's Quick Curing Dental Rubber. [Price List.] 4 pages.

THE Allen Manufacturing Co., Toledo, Ohio. = The Allen Fountain Brush, Showing Portable Outfit in Use. Price List, June 1, 1904. 12 pages.

RUBBER EXPORTS FROM PERU.

THE British consul at Iquitos reports a growing interest in the rubber trade there, which is the chief basis of commercial life in the Peruvian departments having the Amazon for their outlet. He gives details of the exports of rubber for 1903, with the exception of what was shipped from the river Javary direct to Manáos, and the figures compare as follows with details for 1901 and 1902, printed in THE INDIA RUBBER WORLD of December 1 last:

GRADE.	1901.	1902.	1903.
Fine rubber. kilos	478,119	500,134	651,018
Entrefine.	44,282	29,504	45,294
Coarse.	269,075	194,216	266,466
Caucho slab.	69,094	79,115	57,967
Caucho ball.	517,322	630,263	951,188
Weak rubber.	4,019	8,636	18,052
Total. kilos	1,381,911	1,441,868	1,989,985

Exports from the Javary to Manáos are not stated for 1903; in 1901 the figure was 356,765 kilos, and in 1902 a little less—336,218 kilos.

CAREER OF THE LATE ELISHA S. CONVERSE.

DIED, at his residence in Malden, on Sunday, June 5, 1904, at 5.15 P. M., ELISHA S. CONVERSE, in his eighty-fourth year.

ELISHA SLADE CONVERSE was born July 28, 1820, in Needham, Massachusetts, in the seventh generation descended from Deacon Edward Converse (an earlier spelling of the name), who settled at Charlestown, Mass., in 1630, and who "was a man of some wealth and considerable influence, of great strength and energy, as well as a rigid Puritan", as "is evidenced on nearly every page of colonial and town history, and continued to be so for 33 years after his arrival in this country"* from England. The same characteristics were perpetuated in the succeeding generations. The subject of this sketch was the son of Elisha Converse—for a time landlord over the taverns in Thompson, Connecticut, and keeper of the turnpike gates—who married Betsey Wheaton, of Thompson. The family lived for a few years at Needham, Mass., and later returned to Connecticut.

During his twelfth and thirteenth years Elisha Slade Converse worked for nine months in a cotton mill in the town of Thompson, and attended school three months. In April, 1833, he removed to Boston, and lived for a short time with his elder brother, James Wheaton Converse; he next lived with his sister, Mrs. Aaron Butler, in South Boston, assisting her husband in a general store; then returned to his parents and worked on a farm until he was 17. During all this time he attended school part of each year. At this age he was engaged for two years with Albert G. Whipple, at Thompson, Connecticut, to learn the clothier's trade, but before serving his full time he became a partner with Mr. Whipple; at the age of 22 he bought out the business and continued it on his own account. In 1843 he married Mary Diana Edwards,† the daughter of a leading citizen of the community.

In 1844 Mr. Converse removed with his wife to Boston and engaged in the wholesale shoe and leather business as a partner in Poland & Converse, later removing his residence to Stoneham, Mass., where the firm had a branch business—the "Red Mills"—in preparing dye stuffs, etc. The firm dissolved in 1849, and Mr. Converse formed a copartnership with John Robson to continue the business at the mill. In 1850 Mr. Converse removed to Malden, Mass. The next year the Malden bank was

organized, when he became one of the directors. In 1856 he was elected president of this bank, which office he continued to hold until the end of his life. During 1853 the firm of Converse & Robson was dissolved, and the senior member became interested in the rubber industry.

The rubber industry in Malden had its beginning about 1850, with the Edgeworth Rubber Co. They tried to find means of working rubber without sulphur, but unsuccessfully, and were finally sued for infringing the Goodyear patent and became insolvent. The leading spirit in that company, Gardiner Greene Hubbard, had employed Eben N. Horsford, professor of chemistry at Harvard College, to make some studies for him, and through the latter learned that Dr. F. Luedersdorff had published in Berlin in 1832 something on the use of sulphur in connection with rubber. The story runs that Hubbard threatened to make use of this fact—then almost unknown outside of Germany—in attacking the Goodyear and Hayward patents. At any rate a new company was formed, the Malden Manufacturing Co. being incorporated May 4, 1853, with \$200,000 capital, of which one half was represented by a license granted by the Shoe Associates. Gardiner G. Hubbard was president and James C. Dunn treasurer. Leverett Candee and Nathaniel Hayward were also on the board, and William Judson had an interest. The name of the company was changed by the Massachusetts general court May 7, 1855, to the Boston Rubber Shoe Co.

Elisha S. Converse was elected treasurer of the Malden company September 8, 1853. He stated to THE INDIA RUBBER WORLD at one time that no previous intimation had been given to him that he had been thought of for treasurer or having any connection with the company. No other Converse was connected with the



THE LATE ELISHA S. CONVERSE.

company until several years after, when his elder brother, James W. Converse, was elected a director. Bishop's "History of American Manufactures" says that the stockholders "induced Mr. E. S. Converse to relinquish his other business and devote his entire attention to the management of the affairs of the company, as buying and selling agent and as treasurer. Such confidence was placed in his ability that almost unlimited power was given him, and the result vindicated the wisdom and propriety of their course. . . . The dark days of 1857, which involved so many business firms of repute in insolvency, obscured, for a time, the rising company; and to add to their embarrassments, the price of raw material advanced enormously; but the temptation to tide over, by the

* Family Record of Deacons James W. Converse and Elisha S. Converse. Compiled by William G. Hill. Privately Printed. 1887.

† For a sketch of Mrs. E. S. Converse, see THE INDIA RUBBER WORLD, January 1, 1904—page 127.

use of inferior rubber, was withstood; the financial ability and resources of the treasurer carried the corporation safely through the crisis, and it came out of the trial with an established credit, and a manufacturing reputation second to none. For the first time in its history, dividends were paid to stockholders."

Under Mr. Converse's active and forceful management the Boston Rubber Shoe Co. made steady and uninterrupted progress until it became the largest establishment in the world of its kind, if not the largest in any department of the rubber industry. In a public address two years ago Colonel Samuel P. Colt mentioned that at one time the ambition of Mr. Converse had been to live to see the time when the daily production of his factory might reach 1000 pairs of rubber boots and shoes a day. The production, he said, had then grown to 55 000 pairs a day, and with an aggregate invested capital of \$350,000 the company had divided among the shareholders, under Mr. Converse's management, \$29,000,000. Mr. Converse remained treasurer of the company until 1895, when he relinquished the position to Lester Leland, his son in law. For a long period the office of president was held by his brother, James W. Converse, whose relation to the business, however, was mainly in an advisory capacity. After the death of the latter, the office of president was filled by E. S. Converse. Costello C. Converse, a son of James W., has been for some years vice president of the company, and a factor of weight in its management. The ownership of the business long ago passed into the hands of Mr. Converse and members of his family.

Mr. Converse at various times came to have an important connection with the rubber industry in other departments. He was president at one time of the Boston Belting Co. and had an interest in the Revere Rubber Co., the Easthampton Rubber Thread Co., and other concerns. He was also president of the Rubber Manufacturers' Mutual Insurance Co.

Mr. Converse was deeply interested in the growth of the city of Malden, to which he contributed in many ways. He was first mayor of the city, and donated to the public a liberally endowed free library, a hospital, and a park, in addition to his gifts to the Baptist church and the Young Men's Christian Association. He served two terms in each branch of the Massachusetts legislature, and was actively connected with various institutions of other than a business nature.

During the last two or three years Mr. Converse's declining health compelled his retirement from active life, and in December, 1903, he suffered a sore bereavement in the loss of his wife, after 61 years of married life. There were four children: Frank Eugene, who died in 1863; Harry Elisha, a director in the Boston Rubber Shoe Co.; Mrs. Costello C. Converse, and Mrs. Lester Leland.

* * *

FUNERAL services were held from the First Baptist Church of Malden, on the afternoon of June 8. For two hours during the day the body lay in state in the church, and thousands viewed it. The memory of Mr. Converse was honored throughout the city. Many firms suspended business during the day; the schools and municipal offices were closed, and the streets in the business section were draped in mourning. The services at the church were conducted by the pastor, the Rev. Charles H. Moss, assisted by a former pastor, the Rev. Dr. Henry O. Hiscox, of Albany, N. Y., who delivered the eulogy, and the Rev. Dr. James F. Albion, of Portland, Me., former pastor of another Malden church, who offered prayer. The present and former city governments were represented, and the various institutions of Malden and Boston with which Mr. Converse had been identified, while many friends at a distance sent floral

tributes. Not only was the church crowded, but two thousand people stood in the streets, with bowed heads, while the services were in progress. The pall bearers were Frank B. Bemis, Boston; J. Eugene Cochrane, Dedham; F. H. Darling, Boston; Major Harry P. Ballard, Malden; Frederick T. Ryder, Malden; W. T. A. Norris, Melrose; Homer E. Sawyer, New York; and E. F. Smith, Malden. The interment was in the family lot at Woodlawn cemetery, Malden.

* * *

At a special meeting of the executive committee of the New England Rubber Club, held on June 8 to take action upon the death of Mr. Converse, the following resolutions were passed:

WHEREAS, God in His infinite wisdom has taken from us our friend and highly esteemed Honorary President, Elisha S. Converse, and, being desirous of paying tribute to his memory, we, the committee representing the members of the New England Rubber Club, hereby adopt the following resolutions:

Resolved.—That in the death of our Honorary President, this association has lost a valued friend and wise counselor.

Resolved.—That the rubber industry has been deprived of one of its earliest and most ardent supporters, and one who has been a shining example of an enlightened and honorable merchant.

Resolved.—That in the memory of his life, we have with us for all time an example of a pure and noble manhood, a firm determined character, a genial nature, always thoughtful and kindly to those about him.

Resolved.—That we extend to his family our appreciation of his high and noble character, and our sincere sympathy for them in their great loss.

L. D. APSLEY, President. G. P. WHITMORE, Treasurer.
A. W. STEDMAN, Vice President. E. E. WADBROOK, Acting Secretary.

The Club was represented at the funeral by the four officers above named, and by Allen L. Comstock and John H. Flint, directors. The Club also sent a beautiful wreath of roses to the church.

The Boston Belting Co., of which Mr. Converse, at various times, was treasurer and president, attended the funeral in a body, and were represented by a floral tribute.

* * *

THE will of Mr. Converse, dated October 22, 1902, was filed for probate on June 9 at East Cambridge. The executors named are Colonel Harry E. Converse, his son; the Hon. John D. Long, late secretary of the navy; Moorfield Storey, and Frank B. Bemis. The value of the estate is estimated at \$10,000,000. To his wife Mr. Converse left \$1,000,000, but as she is deceased this will be added to the residuary estate. To each of the three children is given \$350,000. To the Malden Public Library, \$150,000 in trust, for the purchase of art works; First Baptist Church of Malden, \$15,000, in trust, for the poor; Malden Industrial Aid Society, \$25,000, in trust, for the day nursery; to the household servants, \$3000; to the Boston Rubber Shoe Co., \$10,000, in trust, for the benefit of poor employes; to the employes at the company's Boston store, \$4000; to Elisha E. Converse, a grandson, \$10,000; to various other relatives \$1000 each, for the purchase of a memorial of his affection; to Frederick T. Ryder, for many years Mr. Converse's private secretary, \$8000; to Howard S. Randall, former agent of the Boston Rubber Shoe Co. in New York, \$10,000; to Erskine F. Bickford, manufacturing agent of the company, and John Robson, of Melrose, \$5000 each, and Thomas Lang, of Malden, \$3000. There were also many bequests of personal belongings, besides bequests of land to members of the family, eventually to be used for public parks for Malden and Melrose. Of the residuary estate, one third of the principal is to be divided in 1910 among his children and their heirs, and the remainder in 1920 among their survivors.

RUBBER PLANTING IN CEYLON AND THE MALAY STATES.

As Seen by The Editor of "The India Rubber World."

FOURTH LETTER.

Rubber Trees and Tapping at Culloden.—Night Tapping—Rubber Curing House.—Oil from *Hevea* Nuts.—Cost of Pará Rubber at Colombo.—Arapalakanda Estate.—Smoking Ceylon Rubber.—Sunnycroft Estate.—Enemies of the *Hevea*.—A Touch of Fever.—The Forest Conservator.—A Paddy Field Experience.

AT the close of my first day at Culloden, when the sun had dropped low enough to make it fairly comfortable in the open, at Mr. Harrison's invitation we started out to see the rubber. The plantation is primarily for tea, the rubber having been planted later through the tea and also in some of the valleys. The land is very rocky, ironstone abounding, but there must be something in the soil that suits the *Hevea*, for it flourished wonderfully. The only place where it did not appear to do well was in very low ground, where there was no drainage.

The swampy portions of the land have, therefore, been thoroughly drained; indeed, where some of the seven and eight year old rubber now is there had once been a bog where cattle were wont to get mired. The rubber on this soil, which was very rich, had some 3 feet of drainage. Of course it was to be expected that the *Hevea* would grow in such soil as this, but I must confess that I was amazed to see it flourishing far up on rocky hillsides, and sending its laterals in all directions for food. The *Hevea* has proved itself, in Ceylon at least, a most voracious surface feeder, and in this connection it is worth while to examine the illustration of the uprooted tree held erect between two coconut palms, with the laterals stretched right and left, showing a growth longer than the tree trunk itself. The photograph from which my illustration was made was taken by Mr. J. B. Carruthers, and is most graphic.*

The tapping of the trees begins just as soon as it is light in the morning, for through the middle of the day the *latex* does not flow freely, but starts up again about 4 in the afternoon and is continued until dark. The trees are tapped when they show a girth of 2 feet, without regard to their age. No ladders or supports are used in tapping, as it wasn't found profitable to tap higher than a coolie can reach while standing on the ground. The tool is a very simple V-shaped knife with two cutting edges, and a single slanting cut about 8 inches long has been found to be best, a tin cup being placed under the lower end of the cut and held in position by forcing its sharp edge under the bark. These cuts, by the way, are about a foot apart, sometimes closer, and all run in the same direction, the herring bone and the V-shaped cuts being no more in evidence.

* The illustration appeared in our June 1 issue—page 299.

The practice is also followed now of cutting a very thin shaving from one side of the cut, every other day; eleven times, in other words, reopening instead of tapping. Before placing the tin cup under the cut, it is rinsed out in cold water to keep the *latex* from adhering to the tin, and also to keep it from too quick a coagulation. While I was there a very interesting experiment in scraping the outer bark from the trees had just been finished. The results, as far as could be determined, were such a stimulation to the lactiferous ducts that the flow was increased nearly 50 per cent. The oldest trees on this plantation, by the way, are 18 years, and have produced 3 pounds a year; by scraping the outer bark off they expect to get 6 pounds a year from each of these. There are only a few of these older trees, however, most of them being 7 or 8 years of age. All

through the rubber orchards on this estate were hundreds of young Pará trees that were self sown; indeed in many places they had come up so thickly as to be a nuisance. The workmen on this estate, 100 in number, are all Tamil coolies, as the Singalese do not care to work, preferring to cultivate rice, a good crop of which insures them a two or three years' vacation. By the time we had examined a few *Castilloa* trees that were planted by way of experiment, night had fallen, and we wended our way back to the bungalow, where, after a hot bath, as is the custom of the country, we sat down to dinner in pajamas, the "punkah walla" stirring the heavy, moist air by most vigorous pulls at the "punkah" cord throughout the meal.

The rainfall up here in Kalutara is rather more than down at the coast, being, so I was informed, 144 inches, and the maximum temperature 94° F. While I was there it was unusually dry, yet the rubber looked well and there was a record of six weeks without rain, which had no apparent effect upon it. The next morning we visited other parts of the plantation and saw a great deal of fine rubber. At present there is an excellent market for the seed, as so many new plantations are going in. As a better preparation, however, against the time when the seed will be a drug in the market, my host was experimenting with an oil made from the seeds. With a rude native mill he turned out an oil which the native women eagerly purchased to burn before their gods, while the pressed cake made an excellent food for cattle. During the forenoon I saw a large Ceará rubber tree cut down and it seemed to have no *latex* in it at all. I also saw a Pará rubber tree, self sown, growing out of a cleft in the rock where there was apparently no soil, the trunk being 10 inches in diameter and apparently very thrifty.



VIEW FROM HILLY ROAD NEAR CULLODEN.



YOUNG "HEVEA" TREES.

[Planted among tea along a watercourse, in Kalatura; view in 1898.]



FIFTEEN YEAR OLD "HEVEA" TREES.

[Planted among tea on an estate in Kalatura; view in 1898; "herring-bone" tapping is no longer practiced.]

One of the most interesting features of this plantation was the rubber curing house, where the milk is coagulated and the rubber prepared for market. This is a one story brick building, 30 X 80 feet, smelling for all the world like a dairy as one steps within its doors. At one end of the room is a long table upon which are hundreds of enamelled iron pans, capable of holding about a quart each. Into these pans the milk is poured through a cheese cloth strainer, after having been previously strained in the field. To it is often added a very little acetic acid—a few drops only. This is allowed to stand over night, and in the morning there is to be found in each pan a pure white pancake of rubber, soft, spongy, and full of water. Each cake is then rolled on a zinc covered table with a hand roller and much of the water thus expressed. The name of the estate is then stamped upon it with either a wooden or metal die, when it is ready for the heater room. The heaters used are simply charcoal ovens, the rubber being spread on wire screens above the fire, and left for three or four hours. By this time the pancakes have lost about 50 per cent. in weight and are beginning to assume a decidedly darker hue. Cakes in the condition described, if in South America would be immediately marketed, but not in Ceylon. From the heaters they go to drying racks, where they are air dried for a month to six weeks, depending somewhat upon the weather, and are shipped only after careful examination as to quality and dryness. The care which the planters are expending upon the preparation of the rubber is the best sort of guarantee that the quality will be sustained, and that the day will come when the name of a plantation on a cake of rubber will tell its value almost to a penny. To follow the rubber a little further it is, when perfectly satisfactory to the planter, packed in chests, the counterpart of the regulation tea chest, made of "momi" wood that comes in shooks from Japan, each package containing about 200 pounds.

There is also a coarse rubber that is secured by picking the scrap from tapped trees. It is a very excellent rubber, and while I was there it found a market at 3s. 5½d., while the fine was bringing 4s. 9½d. There are those who claim that it is unwise to pick the film of rubber out of the tapping wounds in the tree, as there is danger that insects or disease enter there. Such a theory is plausible, but so far I have not heard of ill resulting from such removal of the air dried scrap.

This coarse rubber, by the way, was not absolutely clean; that is, it contained bits of bark, and vegetable matter often-

times. As labor is so cheap, and there is plenty of water, it could be very easily washed. For this purpose the ordinary corrugated roll washer that is used in the rubber factories has been suggested, but it hardly fits the case, as the scraps are so very small. A more practical plan would be to run them through a winnowing machine such as is used to blow the dirt out of peas and beans and let the air blast take out as much bark as possible. Then if necessary use a washer of the paper engine type to wash and beat the rest out. Of course, for quick drying the gum should then be sheeted, and either plain or corrugated rolls would accomplish that, and it could hang until dry. There is so little of the scrap, however, that the simple winnowing machine is probably all that would be necessary or profitable.

The time will come, however, when the coagulating and drying will have to be done on a different plan. The present method takes up too much room and is too slow. It would be perfectly easy to have coagulating pans that would deliver strips of rubber 10 feet long, a foot wide, and a quarter of an inch thick. These strips could then be run through rolls that would squeeze the excess water out, and at the same time imprint the plantation name every few inches. Then the strips could be hung up to dry and any degree of artificial heat applied that was thought best.

There have been suggested also a variety of quick coagulating devices, such as endless belts that take a film of milk into a drying chamber and deliver it to the other side coagulated and dried. Some such plan may prevail, but as yet the planters are not ready for it.

After many experiments the manager at Culloden has satisfied himself that only the very early morning or the late afternoon are the proper times to tap, as in the middle of the day the flow of latex is almost nothing. The trees are therefore tapped from 4 until 7 A. M., and after 3.30 P. M. and as long as it is light. Indeed, the collection of the latex is often done by torchlight. As an instance of Mr. Harrison's alertness in getting all he can out of the trees with safety, he told me of a series of experiments that he was about to institute for all night tapping. It seems he learned that certain sugar estates did all their cutting of the cane by electric light, and that the amount of saccharine matter secured was much larger than in the day time, and as the habit of the *Hevea* tree pointed toward more latex at night he felt that a similar experiment would be justified.



"HEVEA" TREES AT CULLODEN.
[Seven and eight years old.]

At the present time he keeps a careful record of the production of each tree and for this purpose the trees are numbered. When a tree has a circumference of 30 inches it is fit to tap, whether it is 5, 6, 7, or more years old. His first year's tapping in 1901 was 4010 trees, from which he secured 4600 pounds of first quality Pará. In 1902 the production was about the same, the production for 1903 from 8300 trees being 10,500 pounds. From 2500 trees on Heatherly, which has just come in bearing, he gets 3500 pounds.

To show how thoroughly Mr. Harrison is seeking for knowledge of the *Hevea*, he has even had the leaves analyzed to know just what they get in the way of food from the soil of Culloden. The analysis is as follows:

	Fresh.	Air Dried.
Moisture.....	90.605%	10.600%
Organic matter. 8	510%	85.150%
Ash.....	.849%	4.250%

The analysis of the organic matter showed that it contained 3.696 per cent. of nitrogen, while the ash showed as follows:

Phosphoric acid....	.398%	Lime.....	.084%
Potash	1.320%	Magnesia.....	2.117%

Hence 1000 pounds dried leaves would contain about 4 pounds phosphoric acid; 13.2 pounds potash; .8 pounds lime; 21.1 pounds magnesia; and 37 pounds nitrogen. From this it will be seen that the leaf is curiously rich in magnesia, but whether from selection or force of circumstances it is difficult to say.

Most of the work is done by contract, each coolie being expected to get *latex* enough to produce one pound of dried rubber a day. It is very interesting to watch them as they troop up to the curing house early in the forenoon, with huge tin cans of *latex* on their heads, and to note how they watch the straining that none is slopped over, and even rinse cups, cans, and every receptacle and add it to the rest that no precious drop escape.

The rubber landed in Colombo costs 16 cents a pound, United States money. Just to let the skeptical do a little bit of thinking, and by the skeptical I mean the majority of rubber manufacturers who believe that the Pará from the Ama-

zon is a better business proposition—just to start them thinking, therefore, I want to ask them to read the following:

FINE PARÁ RUBBER FROM CEYLON.

Sells at Liverpool, per pound.....	\$1.20
Costs f. o. b. Liverpool.....	.17
Export duty.....	nil .17

Planters' profit.....	\$1.03
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FINE PARÁ RUBBER FROM BRAZIL.

Sells at Liverpool, per pound.....	\$1.00
Costs f. o. b. Liverpool, minimum.....	.21
Export duty.....	.23 .44

Profit.....	\$0.56
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The above figures both for Ceylon and South America are very small—that is the cost figures. It is probable that 20 cents a pound for cost in Ceylon would be nearer actual practice, while Pará rubber costs landed in Pará or Manáos often 40, 50, and 60 cents a pound, the figures being dependent upon the section that it comes from.

As a matter of fact, the Tamil coolie whom the planters employ is not a high salaried individual. His pay averages about 13 cents a day, United States money. To this is added the coolie "lines" or houses which are free of rent to him, as is also medical attendance. The planters keep no stores usually, but they do buy rice and furnish it at cost to their laborers, the allowance being 1 bushel a week for a man, and $\frac{3}{4}$ bushel for a woman.

It was while sitting on the cool flags under the broad porch at the Harrison bungalow that the subject of snakes came up. Both my host and his friend acknowledged that cobras were very plentiful, and that they had a great liking for cool bungalows, which they sought to enter whenever they thought they



"HEVEA" TREES AT CULLODEN.
[Eighteen years old from planting.]



RUBBER CURING HOUSE, CULLODEN.

could safely do so. They said it was a very rare thing, however, for a white man to be bitten by one. But the natives are often bitten, and sometimes fatally. The Singalese won't kill them, as they think the cobra quite likely to possess the soul of some dead relative of theirs. The Tamils, however, have no such prejudice and are perfectly willing to slaughter them whenever they can. My informants acknowledged that the bite of the cobra was very venomous, but not necessarily fatal. They said that some years before there had lived in that district a man who was known as the cobra king, who not only cured snake bites in others, but was proof against poison himself. He used to tease the snakes to make them bite him, and even rub their venom into cuts on his arms, and apparently without the least injury. But he was finally attacked by a sort of rheumatism, which made him a helpless cripple, and he went back to England to get cured.

Close to Culloden is Arapolakanda, where I next visited, being entertained by the resident manager, Mr. H. V. Bagot. He has but fifteen acres of *Hevea* in bearing, and gets twenty pounds a day. In coagulating, Mr. Bagot did not follow exactly the process used by his neighbor, Mr. Harrison, the difference being this; he added no acid to hasten coagulation, and also smoked the rubber over a fire of sawdust and bark. The final drying was accomplished by spreading on wire screens, and not a pound was shipped until it was perfectly dry and transparent. By the way, he reported that he had one "dumb" tree that was big, thrifty, and apparently exactly like the others, but that it gave no milk. At the lower end of Arapolakanda are some acres of marsh land that have been drained and reclaimed and on which is standing some fine rubber. As this land is near the river, it is sometimes inundated, the water standing four feet up on the trunks, but for a short time only.

Mr. Bagot acknowledged that the trees were set back somewhat, but not very much. The general opinion in Ceylon, however, is that inundations are very apt to kill out the *Hevea*.

The oldest rubber on this plantation is some 15 to 18 years old, planted quite closely together in a sheltered nook. In this lot the outside trees which get the sun are by far the largest, one that I measured roughly being 2 feet in diameter and 60 feet high. After having seen all of the rubber, I examined the tea, saw what sights there were, and spent a very pleasant evening with Mr. Bagot, at whose bungalow I slept.

Very early the next morning, with a coolie carrying my luggage, I made my way to the river and climbing down its steep clayey bank, found myself aboard the steamer *Kaluganga*. This craft was some 60 feet long and 12 feet wide, with a small wood-burning boiler and engine amidships. The forward deck was reserved for the whites, while the blacks huddled together at the stern. I had barely embarked, when down came one of Mr. Wither's coolies with two steamer chairs, one of which he had thoughtfully brought for me. After a most earsplitting whistle, the little steamer cast off and started down the deep, muddy stream. Shortly after leaving the pier we passed the Clyde estate, which shows a large planting of tea and Pará rubber, the trees young, straight, and tall. The run down the river

was a pleasant one, but in no way exciting, and early in the forenoon I took a train from Kalutara and was again back in Colombo. As I planned to leave for the Kelani valley that afternoon, I went to the Grand Oriental Hotel for breakfast and a *siesta*, from which I was awakened by a pleasant young reporter, who interviewed me most thoroughly. I want to say in passing that all through the East the newspaper men seemed alive to the importance of the rubber question and printed many columns of things that I did and didn't say. When he had finished with me I summoned Miguel and we took rickshaws for Maradana

Junction station and there bought tickets for Karawanella. After a somewhat tiresome ride in the train we reached our



MR. HARRISON'S BUNGALOW, CULLODEN.



SCENE IN KELANI VALLEY, CEYLON



"HEVEA" TREES AT SUNNYCROFT.

destination and I found Mr. W. Forsythe, of the Sunnycroft estate, awaiting me with a very swell rig consisting of a fine horse and high cart. Into the trap I got, and Miguel hiring a bullock hackery, we drove merrily off. The Forsythe conveyance soon left the other far behind, and as evening fell and it began to grow chilly, I was moved to ask how much further Sunnycroft might be. I then learned that it was eight miles from the station, whereas I had been told that it was two. As the road was constantly ascending, it grew colder and colder, and as Miguel had my coat, I suggested to Mr. Forsythe that I was in for a chill. He therefore stopped at the bungalow of a planter friend and secured a coat for me and our journey was then continued. Had it not been for the chill in the air, I should have enjoyed the ride mightily, as the road was most picturesque, winding through native villages, crossing rivers and often crowded with strange conveyances. Mr. Forsythe entertained me very pleasantly that night, and the next morning we walked some eight miles over his plantation. His land was exceedingly hilly, but under a high state of cultivation, showing many hundreds of acres of fine tea. He also had about three hundred *Hevea* trees planted in 1897, which would average 40 inches in circumference. In addition to this he had planted rubber everywhere through his tea, but very little of it was over 2 years old. In his section he found that when the *Hevea* trees were young it was a constant fight to keep the porcupines and wild pigs from eating them. He was, therefore, protecting the young trees in certain sections with wire fences, the lower side of which were buried in the ground.

It was during this walk that I discovered what it meant to get chilled in a tropical climate, and to have that chill develop into an incipient fever. Although the sun was scorching hot and I was exercising, I wasn't perspiring a particle. When we got back to the bungalow in the early afternoon, therefore, after due apology for being ill, I took twenty grains of quinine, and wrapping myself in blankets, went to sleep. The quinine or the blankets did the business, and the next morning I was

able to take a bullock hackery at 5 o'clock and rattle and bump down the mountain road to the railroad station, whence I took train for Colombo.

The next day I was fortunate enough to meet Mr. F. Lewis, the assistant conservator of forests, who has done a great deal to further the planting interests in Ceylon, and whose opinions on rubber are most sound. In the course of conversation, he acknowledged that he and his coworkers were continually on the outlook for the appearance of disease in the rubber. He said that wherever large areas of anything were cultivated, nature came forward with some disease or pest. He believed, however, that intelligence and vigilance would keep such visitations at least under control. I asked him specifically about his idea of distances in planting rubber, and his conclusions were almost identical with my own, that it was well to plant closely at first, that weeds and grass might be kept down and perhaps cut out the weaklings later. Of course in planting through tea no such close setting can be indulged in.

My visit to Ceylon was drawing rapidly to a close, as I was booked to sail on the *Bengal* on the 20th. Any further excursions that I took into the country were, therefore, of minor importance, and of adventures I had none except that little affair with the water buffalo. It came about through my desire to see a paddy field at close quarters. I was some little way out of town, and stepping down off the roadway walked out on the narrow bank of clayey mud that separated one rice plot from another. There were hundreds of these plots and miles of narrow earthworks, and I had gotten some distance out, when a huge water buffalo, wallowing in the mud, made up his mind that I was an intruder, and started for me. As he weighed about a ton, and knew the country anyhow, I didn't stop to argue, but raced back for the road. I am considered a pretty fair runner, but I verily believe that the beast would have caught me if it hadn't been for a native who ran out with a switch and headed him off. The absurd part of it was that my rescuer was a mite of a boy, his only clothing being a red string round his waist, but he certainly knew the proper profanity to apply to water buffaloes.

By the way, speaking of paddy fields, it seems a shame that the very best land of Ceylon should be given up to the culture of rice. If those same fields were drained and planted to *Pará* rubber, there is no doubt but they would show an infinitely bigger profit, even if those who turned them into rubber orchards paid, as an annual rental, the amount of rice that they are supposed to produce.

[TO BE CONTINUED.]



PADDY [RICE] FIELD IN CEYLON.

SCIENTIFIC VULCANIZATION METHODS.

BY CHARLES J. TAGLIABUE.

II.—AUTOMATIC CONTROL OF TEMPERATURE.

IN every branch of rubber manufacture, uniformity of product is possible only by maintaining accurate control of vulcanizing conditions. In practice, dependence is placed on a heater man who is left to his own judgment to regulate the heat by hand, basing his adjustments of the steam inlet and outlet on thermometer readings. With such a system only approximate results are possible.

Long experiment has resulted in the development of a scientific system of automatic time and temperature control, whereby, once adjusted, the vulcanizing process is perfectly regulated. This is known as the "Tagliabue system." Its proper application necessitates correct plans of piping and ample steam supply to insure its uniform and rapid distribution to all parts of the heater or press, and the instant removal of the air, wet steam, and condensation.

The leading feature of the "system" is the Pressure Governor, which is an apparatus for throttling the steam valve, not in accordance with the initial or boiler pressure as in ordinary regulation, but in accordance with the pressures inside of the heater or press. The mechanical features of the apparatus are so simple and few that derangement is scarcely possible, or, if it takes place, it can be quickly remedied by any mechanic or engineer.

When the governor is set for the desired temperature or pressure, it is necessary only to turn on the steam and the heater practically takes care of itself. As there is a definite equivalent in degrees of temperature for every pound of pressure of saturated steam, it is only necessary to provide weights for the governor which will give control at any desired degree of heat, and as all the observations are made with the thermometer, it is virtually temperature control.

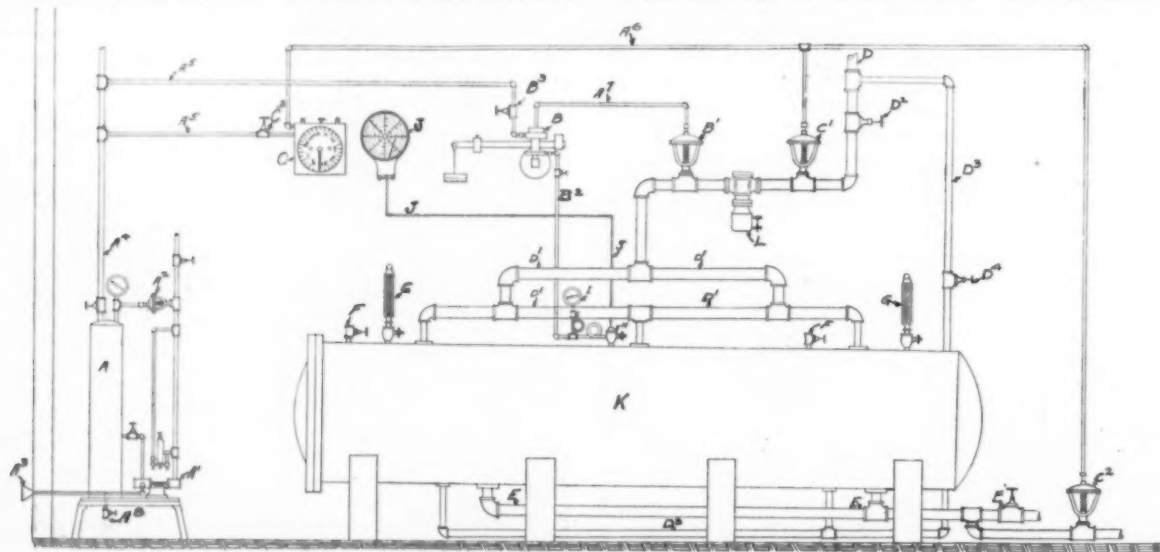
It is true, at the beginning of the cure, when the cold heater is started, that the temperatures and pressures do not correspond, but this period is not counted in as part of the actual curing time. As soon as the heater becomes thoroughly heated, and the condensation of the steam is again normal, the temperature and the pressure will be found to agree absolutely

and invariably. Thus the actual time of curing should be measured from the time the heater has reached its maximum temperature.

Time is equally important with temperature in vulcanization, and should be as exactly regulated. The usual method is to mark on the heater or other convenient place the length of cure, or time when it should end. This time having elapsed, the heater man is supposed to shut off steam and blow off the heater. The Tagliabue automatic system shuts off the steam at the expiration of the cure, and if desired also operates a blow off valve, to blow out the steam. This, in conjunction with the temperature controlling device, makes the process of curing practically automatic and positive.

The diagram illustrates the arrangement of the entire system as applied to a properly piped heater. The system is pneumatic—i. e., compressed air is the motive power for operating the controlling valves. The air compressing outfit of the system consists of a small steam air compressor A^1 and air storage tank A , mounted on a suitable stand. The compressor is provided with all the necessary lubricators, the steam supply is $\frac{1}{4}$ " and the exhaust $\frac{3}{8}$ ". The tank is supplied with pressure gage, and from the top is taken the main air supply line A^4 , subdividing into the branch lines A^5 , supplying the pressure governor B , and the time device C . The air pressure required is 15 pounds or more. To maintain this pressure constant the controlling valve A^2 is placed on the steam line to compressor, and connected to storage tank as shown. This valve can be adjusted for any required air pressure, and will control the supply of steam to the compressor, so that the desired pressure of air will be maintained, with a minimum use of steam. As the amount of air used by each device is small, this compressor will furnish the air for quite a number. The air intake to compressor is placed out of doors, and should be located away from the steam vapor or dust. This compressor requires little steam, and never stops. If properly supplied with oil it will take care of itself. In the bottom of the storage tank is a blow off valve, A^6 , for blowing off at intervals accumulated water and oil.

The pressure governor B is provided with a flange for securing it to the wall near the heater or press. The lever is hung on knife edges and is as accurate as a scale beam as it rests on a rubber diaphragm in the circular base. Above the lever is a



TAGLIABUE AUTOMATIC SYSTEM OF TEMPERATURE AND TIME CONTROL.

circular casing, containing the air valves operated by the lever. The base containing the diaphragm is connected to heater or press by means of pipe B^2 . To the top is connected the air supply pipe A^2 , and the air discharge pipe A^1 , which latter is connected to diaphragm valve B^1 .

The diaphragm valve B^1 is placed on the steam line to the heater, and is of the globe type. On the bonnet is screwed a cast iron frame, in the top of which is secured a rubber diaphragm. The stem of the valve is sliding, surrounded by a volute spring, and topped with a wooden saucer, resting against the rubber diaphragm. When the latter is actuated, it presses against the saucer which forces down the sliding stem, compresses the spring and closes the valve. When the air discharges, the diaphragm collapses; the steam pressure under the seat of the valve, by the aid of the spring, forces back the stem, and opens the valve.

The pressure governor operates thus: A weight equivalent to the pressure denoting the temperature desired, is placed on the hanger at the end of the lever. Cock B^2 admitting compressed air to the governor is opened, and steam turned into the heater or press at the hand valve D^2 . The steam pressure in the heater or press is communicated to the diaphragm of the governor, through the pipe B^2 , and when the desired pressure has been reached, the diaphragm actuates the lever, which in turn operates the air inlet valve in the upper casing B , permitting the passage of air into the pipe A^1 , compressing the diaphragm in steam valve B^1 , forcing down the stem and shutting off the steam. When the pressure falls the fractional part of a pound, the governor diaphragm collapses slightly, lowers the lever, closing the air inlet valve, and at the same time opening an air discharge valve, which relieves the steam valve diaphragm of the air pressure, causing it to collapse, and permitting the steam valve to open again. During the curing process the diaphragm steam valve B^1 is rarely wide open, or fully closed, for the reason that the governor is so sensitive that it keeps the valve throttling, responding instantly to the slightest change of pressure, and delivering just the requisite amount of steam to maintain the vulcanizer at the exact temperature or pressure desired.

The clock C and diaphragm steam valves C^1 and C^2 constitute the time device of the system. The valve C^1 is on the steam supply line to the heater, and when actuated by the clock, it opens and blows out steam. The clock dial is marked for 60 or more minutes, moving from left to right. At the 0 of the dial, the lever of a pneumatic valve projects and engages a spindle projecting above the top of the case. The clock is provided with a pointer or hand, which can be set for the time, and then clamped to the spindle or shaft.

Compressed air is supplied by pipe A^2 and connected with valves C^1 and C^2 by A^3 , operating as follows: Air cock C^2 is opened admitting air to the pneumatic valve of the clock, the hand is set for the time required for the cure. The hand travels to the left, and at the expiration of the time, it will trip the lever of the pneumatic valve, and thus turn on air into pipe A^3 , which will operate the diaphragms of valves C^1 and C^2 , thereby shutting off and blowing out the steam, so that without the necessity of handling any valves, the heater may be opened and goods taken out. The operation of the clock is independent of that of the governor.

A special feature of this system is that either or both the governor and time device can be instantly thrown out of service by merely closing the air cocks B^2 and C^2 in case of accident, and the heater can be operated by hand in the usual way.

Besides showing the application of the pressure governor and the time device, the diagram illustrates a correct plan of piping

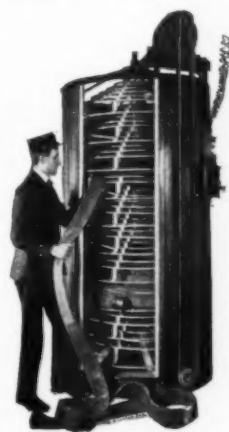
for a hose heater, with the necessary fittings and their best location. D represents the steam supply from boiler, and $D^1 D^1 D^1 D^1$ the 2" steam supply to heater with three 1" inlets. This supply is so piped as to give an equal volume of steam to each of three inlets, insuring a uniform distribution of steam in the heater. D^2 represents 1" steam supply to bottom of heater with two inlets, and $E E$ discharge pipe from heater. $F F$ represents the air blow off valves, which should be at least 1 1/4" to vent the air quickly.

$G G$ represents the mercury thermometers, screwed into special fittings, insuring steam circulation. H represents similar fitting for a recording thermometer. This fitting is provided with steam circulation cock, also with opening for attaching steam gage and pressure governor connection. I represents the ordinary spring pressure gage. $J J$ represents the recording thermometer with its connecting tube, which can be 25 or more feet in length. K represents the heater, and L the steam separator.

The application and operation of the pressure governor is virtually the same for a press, and the same general plan of steam supply should be used—i.e., uniform distribution of steam to the platens. Mechanical goods presses running at the same heats can be piped in groups, so that one pressure governor can be used to control the steam in all of them. As many as twelve or more presses may be controlled by one governor, with absolute certainty.

NEW DRIER FOR FIRE HOSE.

THE new rotary fire hose drier shown in the illustration is designed for use in fire stations. As will be seen, it is cylindrical in form, occupying a space only 4 feet square and 8 feet high, which in itself is a recommendation where space is limited. In this drier the wet hose is subjected to currents of



air which evaporate all moisture. The rotary motion of the hose very materially aids the work of the exhaust fan at the bottom of the cylinder. The hose in the case rests lightly upon cylindrical racks, with sufficient space between coils to prevent contact. The kind of motor used depends upon the available motive power, electricity being preferable. The motor revolves the hose shaft and fan, causing a strong current of air (about 3000 feet a minute) to pass rapidly through the drier and over and around the hose, the exhaust fan at the bottom revolving five times as fast as the hose, creating double currents of air.

The rate of speed can be regulated at will, the whole operation being under perfect control at all times. It winds and unwinds as easily as a ball of yarn. It can be operated by one man, who can handle 600 feet of hose at one charge with no trouble and practically no labor. The device is substantially constructed, all the interior work being of iron, steel, and wood, the exterior or casing of wood natural finish, the whole presenting a neat appearance. The rotary motion of the hose very materially aids the work of the exhaust fan at bottom of the cylinder. The cost is less than that of the hose towers in common use. Manufactured by the recently incorporated Rotary Fire Hose Drier Co., No. 910 Cumberland street, Lebanon, Pennsylvania.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE high price of rubber, and the continued short time movement in the Lancashire cotton trade, are proving adverse factors of some moment with regard to the mechanical rubber trade. There can be no doubt that the class of merchants known as mill furnishers have been experiencing a bad time. But little of the rubber used in the mills and workshops of industrial Lancashire and Yorkshire is ordered at first hand, the mill furnisher, as middleman, still holding an important position, from which it must be said the rubber manufacturer has no wish to oust him, owing to so many of the orders being of small magnitude. With regard to the cause of the high price of the raw material the manufacturer hazards various theories in his rage and impotence, these theories, be it said, being of a diversified character. Meeting the other day a merchant engaged in the rubber export trade in Brazil, I asked him his opinion as to the cause of the rise in price. His answer was immediate and concise: "It is the greed of your millionaire rubber merchants in England; it is they who are making money out of a situation which they have created; there are not fortunes being made out of rubber in Brazil." I give this answer for what it is worth. Of course there may be an effective reply from the other side. In the event of such being forthcoming, I have no doubt the Editor will accord it an equal publicity. Those who read their INDIA RUBBER WORLD diligently will notice in the last issue the remark of a Brazilian merchant to the effect that any rise in the price of rubber goes to benefit those who engage and fit out the *seringueros*. My informant, however, was not inclined to accede to this view, but was emphatic that all the large profits were made in Liverpool.*

THE excuse put forward by sundry shoemakers who have got into financial difficulties is, that the repairing branch of their businesses has fallen off considerably, owing to the introduction of the rubber heel. That this plaint has some foundation in fact cannot be denied, for it is quite surprising the amount of business which is being done in this line. On enquiry of one of our largest rubber firms the other day as to the state of trade, I found that despite quietness in some branches, the rubber heel demand kept them quite busy, the output indeed being as much as five tons per day. No doubt it would be incorrect to multiply this figure by 300 or so to get an estimate of the yearly business, but still this daily production, even if only intermittent, seems worth special mention.

ELSEWHERE I have made a remark on the Ceará tree in Ceylon, and now propose to say a word or two on this rubber in general. The Ceará or manigoba rubber has, in Great Britain, at any rate, always held a rather doubtful position, though I am not aware that the statement as to liability to decay is based on any very sure foundation. In my own experience the premature decay of a large number of cycle tire covers was attributed to the fact of Ceará rubber being almost exclusively used, but it is open to question whether incorrect vulcanization had not a good deal to do with it. The chief objection urged against the rubber to-

day is the variable amount of impurities it contains, and it is clear that those who are desirous of seeing the market for this rubber extended should look closely into this matter. It is really only a matter of carelessness, or perhaps greed, on the part of the collectors. The rubber as it slowly exudes from the cut could be pulled off the tree in quite a clean condition, but the collector prefers to do this work with his knife, which action brings off a considerable amount of bark to increase the bulk of the rubber. Ceará rubber which comes to Europe may lose over 30 per cent., and its purchase is felt to be rather too much of a speculation. That the amount exported from Ceará could be largely augmented both from wild and cultivated there is no doubt, and it is interesting to note that a Frenchman has a large plantation of the trees in the state, the product of which will be shortly on the market. In all probability our manufacturers will soon be in a position to judge of the properties of the rubber without the uncertainty regarding the loss on washing which has been so much against it in the past.

STILL on the topic of raw rubber, a fact which has recently come to my notice seems worthy of record. Some years ago a South American merchant who was exporting some Pernambuco rubber to a British rubber manufacturing firm, suggested to the latter that as this class of rubber was carelessly collected and often badly coagulated by the alum method, he would probably obtain a better price if it was sold free from resinous matters. A leading official of the firm, however, informed him that they preferred the rubber in its sticky state, and stated further that if he took the resins out they would have to replace them. Now this may be quite true for the particular work the firm in question wanted the rubber for, but it led the inquirer for years to believe that resinous matters formed an important part of the rubber. I am sure that there have been plenty of buyers of Pernambuco rubber in the past who would gladly have dispensed with its "tarry" components, and it seems unfortunate that the suggested reform should have been abandoned consequent on the above statement made to an exporter.

ANYTHING I may say on this subject will no doubt prove rather flat and uninteresting during the publication of our Editor's travel notes, but perhaps a word or two from London by way of addendum will not be altogether out of place. I have recently had some conversation with a Ceylon planter of many years standing now taking a holiday in England. From what he said they seem to be more than satisfied with the prices obtained for the Pará rubber. I suggested that when shipments in larger bulk are affected the price would probably fall. He agreed with me in this prognostication but did not seem at all upset by the idea as indeed there seemed no reason to considering the figures he gave me as to the cost of production. On turning the conversation over to Ceará rubber I struck a regretful chord in his mind. "If we had never heard of Ceará rubber," he said, "at the time when we introduced it about 20 years ago, we should have been much better off than we are to-day."

A FRIEND of mine who is engaged in mining operations in Venezuela writes to know if I can tell him what is the matter with the Balata market over here. He says that the Balata business is in a very bad state owing to the low price, and that the merchants in Ciudad

*It would be interesting to know whether, in the opinion of the merchant quoted by our correspondent, "the millionaire rubber merchants in England" make profits also on the rubber shipped direct from the Amazon river to New York—one half or more of the entire Pará output.—THE EDITOR.

HIGH PRICE
OF RUBBER.RUBBER
HEELS.CEARÁ
RUBBER.RATHER
DOUBTFUL
ADVICE.CEYLON
RUBBER.BALATA
INDUSTRY.

Bolivar are holding their stocks and that also the regular collectors in the forest have stopped work. He suggests that it is being obtained elsewhere. Certainly the Guianas have of late got back to something like their old figures of production but I imagine that the root of the evil complained of is that the supply has overstepped the demand. I have not heard of any new demand in this country or that the principal users have increased their purchases to any material extent. In fact it is quite possible that the demand has decreased owing to the substitution of the rubber cored golf ball for the old type made of solid gutta. It is an open secret that Balata entered pretty largely into the composition of the solid gutta ball and the decreased demand for this type of ball seems a very feasible explanation of the present depression in Venezuela.

THERE seems to be something of an upset in this market as far as retail prices are concerned. One reads in the shop windows that the 3s. 6d. sponge can now be obtained for 2s. 3d. and small ones are now priced as low as 7½d., though for a long time the lowest price was 2s. The bulk of those on offer bear a label inscribed with Slav characters, the import of which is rather a mystery to the great bulk of purchasers. I have not yet heard of any British firm putting this article on the market.

To judge by the newspaper notices and expressions of public interest one would imagine that the use of rubber pavement, as in the entrance to the new buildings of the Savoy Hotel, London, was a novelty of to-day. It is no reflection, however, on Messrs. Charles Macintosh & Co., Limited, whose work has just attracted so much attention, to say that the North British Rubber Co., Limited, put down, many years ago, at Euston station, rubber pavement of a similar nature. It is somewhat surprising, when we come to consider the advantages of such pavement from points of view other than its wearing capacity, that it has not been utilized to a greater extent under like circumstances; perhaps a fillip will now be given to this branch, though with rubber at its present price the time seems none too favorable.

THE tenor of the report made by the Automobile Club on the extended trials of side slip preventives, is to the effect that the desired effect has not yet been obtained. My professional profits are not such as to permit of the purchase of a thousand guinea car, so that I cannot speak from personal experience, but from what my friends tell me, it would seem that the best way to prevent side slip is to stay at home when the going is greasy. The various devices of metal studs, leather bands, etc., are said to be certainly effective to a greater or less extent, but at the same time they detract from the life of the rubber and lead, therefore, to additional expense of up-keep.

THE fear that the damages for libel awarded against Captain Guy Burrows, for certain statements in his book ("The Curse of Central Africa"), would prove a severe knock to the Congo agitation in England, has been falsified by the event. Earl Percy has just declared in the House of Commons that "it is impossible to excuse a system under which the collection of rubber is made an excuse for insensate and inhuman barbarities." It is clear, from the attitude of both sides of the House and from what has transpired at public meetings throughout the country, that the nation generally is deeply stirred in the matter. In this we seem to have only America and Italy with us, the case being, it appears, not of sufficient commercial interest to the other Powers to call for their active interest. As matters stand at present there seems no immediate likelihood of action by the Powers in concert, but Lord Lansdowne has got a pledge from

the Congo State government that an exhaustive inquiry shall be held into the whole character of the administration and the conduct of local officials and licensed companies. It hardly seems that this sort of inquiry will be strong enough, and it would not be surprising if the result went to show that the whole agitation was got up by merchants from mercenary motives, as so strongly alleged in Brussels.

DURING the short space of time in which trains between Southport and Liverpool have been worked by electricity two fatal accidents have occurred, owing to contact with the "live" rail. The public excitement has naturally been aroused to the annoyance of the contractors, Messrs. Dick, Kerr & Co., who point out that in each case the victims were trespassers on the line. This certainly is the case, but if such fatalities continue serious doubts will arise as to the advisability of adopting this system of electrification in populous districts, and this may lead to a setback in what promised to be a revolution in suburban railway working.

I UNDERSTAND that Messrs. Johnson & Phillips, the well known electric cable manufacturers of Charlton, near London, intend to convert their business from a private into a public limited company, and that Mr. Claud Johnson, the principal partner, intends to relinquish active interest in the concern. The capital with which the new company is credited is in the neighborhood of half a million, but I have good reason to suppose that £400,000 is the correct figure.—On May 28 a party of members of the Institution of Marine Engineers visited the Silvertown works of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited. The visit is noteworthy because of the great disinclination evinced by British rubber manufacturers to allow visitors to go through the works. Messrs. Siemens & Co., the electric cable makers, are an exception to this, but it is the common thing to see in the waiting room some such notice as "Visitors are respectfully informed that they cannot be admitted to the works."

BY the death at Cannes in the spring of Mr. T. G. Douglas, Sr., the North British Rubber Co., Limited, has lost the chief guiding spirit in its works management. For more than 40 years the deceased had control of the manufacturing operations, coming over from America somewhere in the fifties.* The circumstance which led to the advent of Mr. Douglas in Edinburgh and the energy which he showed in widening the scope of his company's operations, form a very prominent chapter in the life history of the big Edinburgh factory. It is perhaps hardly necessary to say that the deceased must not be confounded with his son, who has been for many years manager of the proofing department in the works.—The official announcement made by the Hyde Rubber Works, Limited, to the effect that Mr. G. W. Dawes had relinquished his position in the management, came in the light of a surprise to many, seeing what a prominent part he had taken in the foundation of the present company.—I am glad to be able to say that Mr. Coutts, of the Erwell and Eastern Rubber Co., Limited, has recovered from his somewhat prolonged illness, and is back again controlling the works management.—Mr. J. E. Baxter of the Leyland and Birmingham Rubber Co., Limited, has returned to England after a lengthy tour in South Africa. I gather that there is no project on hand to start the rubber manufacture in the new colonies, though of course there are great potentialities for retail business development.

* Mr. Douglas went to Edinburgh from the factory of L. Candee & Co (New Haven, Connecticut), the oldest rubber shoe factory in existence.—THE EDITOR.

RUBBER
SPONGE.

RUBBER
PAVEMENTS.

SIDE SLIP
TRIALS.

CONGO
MAL-ADMINISTRATION.

ELECTRICAL
RAILWAY
DANGER.

TRADE
JOTTINGS.

PERSONAL
MENTION.

THE RUBBER PLANTING COMPANIES.

MEXICAN TROPICAL PLANTERS' CO.

[Plantation "Columbia"; Postoffice, Santa Lucrecia, state of Vera Cruz, Mexico. Office: Williamsport, Pennsylvania.]

THIS company, originally incorporated in Missouri in 1898, with headquarters at Kansas City, has been reorganized by its own shareholders, with an increase of capital from \$200,000 to \$500,000, and incorporated under the laws of Delaware. The object is to provide capital for the development of another tract of the company's large holdings of land. It is the intention to plant 500 acres additional to rubber, to plant more sugar cane and enlarge the cane mill, and to increase the number of cattle. The company's headquarters are removed to Williamsport, Pennsylvania, where a considerable part of the capital is held, and there is a new list of officers. *George D. Moore*, of Philadelphia, state agent for Pennsylvania of the Travelers' Insurance Co., becomes president; *John G. Reading*, president of the Susquehanna Trust and Safe Deposit Co. of Williamsport, is vice president, and *Riley W. Allen*, of Williamsport, secretary and treasurer. *Delbert J. Haff*, of Kansas City, one of the founders of the company and formerly its president, remains on the board, as also does *Robert D. Evans*, a former president of the United States Rubber Co. *Louis Kunz* remains plantation manager.

THE TEHUANTEPEC RUBBER CULTURE CO.

[Plantation "Rubio", canton of Manatitlan, state of Vera Cruz, Mexico. Office: No. 81 Wall street, New York.]

AT the annual meeting of shareholders of this company, at their registered offices in New Jersey, on June 15, the board was reflected. A favorable financial report was presented, showing cash expended to date in developing the plantation, \$436,424.46; cash assets, \$71,152.12, and subscription contracts sufficient for carrying out the work of the company during the development period. A report from the resident plantation manager, *Mr. A. B. Luther*, gave an encouraging account of the progress of plantation work—growth of trees of former plantings, new planting this year, and general improvement work. The Tehuantepec company, in common with several other planting companies on the isthmus of Tehuantepec, are arranging for the importation of Japanese laborers.

ISTHMUS PLANTATION ASSOCIATION OF MEXICO.

[Plantation at Del Corte, district of Juchitan, state of Oaxaca, Mexico. Office: Herman building, Milwaukee, Wisconsin. [See THE INDIA RUBBER WORLD, July 1, 1903—page 337.]

THE annual inspection this spring was made by *Wilmer Sieg*, a Milwaukee business man chosen by the other shareholders for the purpose. He reports the acreage improved, to the end of 1903, at 3474, with 1813 fully planted. The number of trees and plants placed to date has been:

	1900.	1901.	1902.	1903.	Total.
Rubber.....	4,332	41,678	48,130	115,208	209,348
Coffee.....	117,774	73,562	46,908	12,403	250,647

Also, 1268 cacao plants set out in 1901 and 7337 bananas and 15,000 pineapples in 1902. The roadmaking had progressed to 78,272 meters. [—about 48½ miles]. A list of 50 plantation buildings is given, including 26 for laborers. The number of laborers, exclusive of contract work, was 223 in 1902 and 254 in 1903. The gross proceeds of "side crops"—principally corn—are given at \$48,561.04 (Mexican), and the net proceeds, applicable to dividends, at \$39,402.81. Over 1100 acres were planted in corn in 1903. The coffee is beginning to bear. Land has been cleared for sugar cane and additional rubber.

COLISEO SUGAR PLANTATION CO.

[Plantation "Coliseo," state of Vera Cruz, Mexico. Office: 408-409 Pabst building, Milwaukee, Wisconsin.]

INCORPORATED under the laws of Wisconsin and Mexico; capital \$500,000. Own 5000 acres in Vera Cruz, near the National Tehuantepec railway. Have issued 5000 twenty year plantation bonds, offered at \$300 cash, or on time, to provide for planting India-rubber and sugar, principally, with perhaps other crops. Officers: *Dr. H. A. Wolter*, Green Bay, Wis., president; *A. W. Priest*, Appleton, Wis., vice president; *D. C. Burdick*, Oshkosh, Wis., secretary. Plantation conveyed to Royal Trust Co. (Chicago) during development period.

PROCEEDS OF RUBBER PLANTING IN CEYLON.

MR. H. V. BAGOT, manager of Arapolakanda estate, in the Kalutara district, Ceylon, writing to THE INDIA RUBBER WORLD, in regard to recent sales of Ceylon cultivated rubber at 5s. 4d. per pound, says that half the present prices would give the planters there a fine profit. He says: "Last year I got 4 shillings all round, including scrap, on 4300 pounds, off just under 3000 trees." The total proceeds would equal \$4185.19, in United States currency, or an average of about \$1.40 per tree. *Mr. Bagot* has about 15 acres of productive rubber trees, planted 200 to the acre, and these figures indicate a return of \$280 per acre. He hopes this year to collect 5000 pounds of rubber from the same trees.—The Arapolakanda estate, owned by the Eastern Produce and Estates Co., Limited, is represented at the St. Louis exposition by an exhibit of their India-rubber, green teas, and cloves, in the Ceylon Court.

CEYLON PLANTERS' RUBBER SYNDICATE, LIMITED.

AT the fourth annual meeting, at Hatton, in April, the report for 1903 showed that 320 acres were in rubber under 3 years, 115 acres in rubber under 2 years, and 100 acres in rubber under 1 year—total, 535 acres. The total expenditure to the end of 1903 reached 166,739 rupees [= \$54,095.81, United States currency]. The expenditures during the year were unexpectedly large, owing to the wetness of the season.

RUBBER ON THE YATADERIA TEA ESTATE.

AT the annual meeting of the Yataderia Tea Co. of Ceylon, Limited (Colombo, March 12), it was stated that at the end of 1902 they had 55,000 Pará rubber trees, of various ages, and a new census was being taken. During 1903 their tea fields were planted with Pará rubber seed at stake, 30×30 feet. [The "Ceylon Handbook" gives their acreage of tea at 981.] The mature trees have been only lightly tapped, so as not to affect the seed crop; 404,000 seeds realized 2459 rupees [= \$798], the balance being put into nurseries for use in 1904. The rubber collected amounted to 183 pounds, which sold for 512 rupees [= \$166].

UDAPOLLA RUBBER CO., LIMITED.

AT the shareholders' first annual meeting (Colombo, Ceylon, May 3) it was reported that operations had begun on July 1 last; that up to December 31 150 acres had been cleared and 30 acres planted to rubber, which was growing well; that the nurseries contained rubber seedlings sufficient to plant the remaining cleared area; and that since the beginning of the year progress had been made with the additional planting. It was voted to issue treasury shares to provide for clearing and planting 150 acres additional, on the company's estate, which are regarded as suitable for rubber. Directors: *W. S. T. Saunders*, *T. C. Huxley*, *F. L. Clements*, *A. L. Hine-Haycock*.

MAKING GUTTA-PERCHA FROM LEAVES.

AT the annual meeting of the shareholders of the Nederlandsche Gutta-Percha Maatschappij (Dutch Gutta-percha Co.), held at The Hague, on May 7, the report of the board of directors for the calendar year 1903 was presented, from which the details which follow are derived.

Many improvements had been made during the year in the factory of the company at Singapore, for the extraction of Gutta-percha from leaves, by the Ledebor process. The working capacity had been almost doubled, now being equal to handling more than 100 pikuls [1 pikul=133½ pounds] of leaves in 12 hours. The capacity is to be still further increased by the addition of the machinery acquired from the Dutch India Gutta-percha Co., in liquidation, and formerly used by them on Boeroe island. During the year the Singapore factory was idle 59 days.

During the early part of the year there was difficulty in obtaining leaves, due to prohibitory taxes and other restrictions on collecting leaves in Malacca and Sarawak, whence large quantities had been received previously. Representatives of the company went through Dutch Borneo and Sumatra, making contracts for leaves with the native chiefs and other landowners, and also with the sultan of the Riou-Lingga archipelago. Rules and regulations for the collection of leaves have been established and premiums offered for the planting of Gutta-percha species. Reports have been received that plantations have already been started. The results from the new arrangements for securing leaves were visible only during the latter half of 1903.

The Gutta-percha product has been improved, the yield varying from 1.05 per cent. to 3.5 per cent. by weight, according to the source of the leaves. The Gutta-percha produced during the year was worth 215,000 florins [= \$86,430]. The company's machinery for cleaning raw Gutta-percha was little used during the year, owing to the depreciation in the Gutta-percha market, but it is intended to resume this branch of the company's work.

The company own two small steamers, for the transporting of leaves—one in service in the Riou-Lingga archipelago and the other in the Barito river district, in Borneo. In the other districts service is by means of chartered steamers.

The company have continued the planting of Gutta-percha in the regency of Preanger, in Java. In December about 60,000 young shoots were planted. Mention is made of an intended planting of about 88 acres this year, and the purchase of considerable additional land. The plantations are reported in good condition, though better results have been obtained from seedlings than shoots or stumps. There are now planted about 245 acres.

The fiscal report showed a profit for 1903 of 38,746 florins [= \$15,576]. But there was a deficit at the beginning of the year of 107,779 florins [= \$43,327], which is thus reduced to 69,033 florins [= \$27,751] and it is hoped that the deficit will be wiped out during the present year. Reports from Singapore indicated a profit of about 90,000 florins since January 1.

The directors were authorized to issue the treasury stock when this should appear desirable, though it was stated that no present necessity exists. [For a former report, see THE INDIA RUBBER WORLD, July 1, 1903—page 337.]

THE value of exports of rubber from Madagascar, according to an official report, increased from 545,630 francs [= \$105,307] in 1902 to 2,594,110 francs [= \$500,663] in 1903. No explanation of the increase is given.

PRODUCTION COST OF INSULATING TAPE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Referring to the article in your May number on the cost of the manufacture in insulating tape, I beg to take issue with it and add a little to it.

Your correspondent says that the cheapest tape costs \$.0886 when made with a compound costing 5 cents per pound and using 4 pounds compound to 1 pound of cotton. No 5 cent calender compound has ever been made that will show better than 3 pounds to 1 for the average day's run, making the cost \$.0983. I do not consider "spreader" tape at all, as uncured naphtha containing goods will not stand outside exposure and it is a mistake for such material to be offered as insulating tape except for inside use.

To the cost (crude material) of \$.0983 should be added 3½ per cent. for wasted cloth and compound and the waste which occurs in cutting up tape, making the net cost of the cut material \$.1017 per pound.

Your expert has allowed too little for "interest." He should add a 6 per cent. dividend on the \$75,000 capital that would always be involved in an annual production of 500,000 pounds of tape. That is as much of a "cost" as the "labor," and a profit above that of not less than 10 per cent. should be obtained for "contingencies," as any tape manufacturer doing \$100,000 business per annum will at all times carry a contingent liability of from \$10,000 to \$20,000 in the notes of his customers and the 10 per cent. "contingent" profit is none too much for insurance, as shown by the failures of electrical supply dealers during the past five months.

Your contributor has allowed \$1143 for power. The goods produced could not have been made on day runs with less than 150 HP., and \$6000 would be nearer right. No item of "repairs and depreciation" appears in this cost and the item should be not less than \$2500.

These items, added to those your correspondent mentions, bring up the cost per pound to \$.236 in any coal burning factory in America, with experimental work and returned goods still to be accounted for. This is with cotton cloth at the price your correspondent figured it.

It is a sad fact that several rubber manufacturers are selling electrical tape to-day at prices as low as 18 cents per pound. Some of them sell bias tape as cheaply as the straight and the former costs 3 cents per pound more than the latter. Some are selling white tape as cheaply as the black, when the white costs 5 cents more to make. Some sell tape in oiled paper at the same price they get for it when wrapped in heavy tinfoil and pasteboard boxes, whereby they lose just about 1½ cents per pound.

Competition may be the "life of trade," but when competition results in prices from 10 to 20 per cent. below cost, it simply shows that the rubber trade has its share of men who do business on their first impressions instead of actual conditions, and let successful departments of their business bear the utterly useless losses of an unsuccessful department. Yours very truly,

C. E. FARRINGTON,
Massachusetts Chemical Co.

Boston, June 30, 1904.

THE INDIA RUBBER WORLD has received, through the courtesy of Messrs. Witt & Co., of Manáos, Brazil, a series of handsome picture post cards, based upon recent photographic views of the city of Manáos and of rubber trading stations and *seringuals* on the upper tributaries of the Amazon, the whole presenting a better idea of some features of the rubber business than any pictures that have come to hand hitherto.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MAY 3, 1904.

- N**O. 758,627. Hose coupling. T. F. Downing, Chicago.
 758,643. Portable syringe. J. Haigh, Wetmore, assignor to the McPike Drug Co., Atchison, Kansas.
 758,673. Vaginal syringe. C. W. Meinecke, Jersey City, N. J.
 758,851. Playing ball [for golf]. F. H. Richards, Hartford, Conn.
 758,862. Vulcanizer door locking device. E. C. Shaw, assignor to The B. F. Goodrich Co., both of Akron, Ohio.
 758,863. Compound hydraulic vulcanizing press. E. C. Shaw, assignor to The B. F. Goodrich Co.
 758,864. Apparatus for preparing, handling, and vulcanizing tires or other rubber products. E. C. Shaw, assignor to The B. F. Goodrich Co.
 758,865. Apparatus for preparing, handling, and vulcanizing tires or other rubber products. E. C. Shaw, assignor to The B. F. Goodrich Co.
 758,885. Armor for pneumatic tires. J. W. Aylsworth, East Orange, N. J.
 758,905. Packing [with rubber core]. H. T. Evans, New York city.
 758,930. Fountain pen. G. S. Parker, Janesville, Wis.
 758,934. Fountain pen. J. S. Purdy, Brooklyn, New York.
 758,956. Hose coupling. G. B. M. Buzzell, Boston.
 758,985. Hose coupling. W. Liebl, Pittsburgh, Pa.
 759,017. Vehicle wheel [with cushion tire]. C. Rondell, Minneapolis, Minn.
 759,084. Surgical operating cushion. A. C. Eggers and E. Stahl, assignors to Goodyear's India Rubber Glove Manufacturing Co., Naugatuck, Conn.
 759,123. Means for removing the rubber tires of bicycles or other vehicles. S. Nicholson, assignor of one half to W. H. Paterson, both of Gore, New Zealand.
 759,124. Vehicle wheel [with solid rubber tire]. W. C. Oswald, Kalamazoo, Mich.
 759,141. Pneumatic renovator [for house cleaning]. J. S. Thurman, St. Louis.
 759,195. Vertical vulcanizing press. E. C. Shaw, assignor to The B. F. Goodrich Co., both of Akron, Ohio.
 759,196. Horizontal vulcanizing press. E. C. Shaw, assignor to The B. F. Goodrich Co.

ISSUED MAY 10, 1904.

- 759,324. Hose coupling. M. P. Stevens, East Orange, N. J., assignor to Safety Car Heating and Lighting Co.
 759,342. Pessary. F. H. Brunig, Kansas City, Mo.
 759,430. Hand stamp. M. R. Flynn, Danville, Va.
 759,452. Pneumatic carpet renovator. A. Lotz, assignor to Sanitary Compressed Air and Suction Dust Removing Co., both of San Francisco.
 759,455. Rubber tired wheel. A. H. Marks, Akron, Ohio.
 759,456. Rubber tire [consisting of a relatively tough and stiff base portion and a resilient tread portion, said two parts being interlocked by means of projections on one which enter the other]. A. H. Marks, Akron, Ohio.
 759,490. Tooth brush. J. A. Yates, Rockfort, Ind., assignor to Florence Manufacturing Co., Northampton, Mass.
 759,577. Dress shield. I. L. Wild, Brooklyn, New York.
 759,611. Cushion tire wheel. W. H. Holmes, Columbus, Ohio.
 759,636. Overshoe for horses. J. T. Ryan, St. Louis.
 759,753. Artificial foot. J. F. Rowley, Chicago.
 759,755. Storm shield for vehicles. J. J. Russell, Jr., Deepwater, Mo.

ISSUED MAY 17, 1904.

- 759,843. Sprinkler or minimizer. R. B. Adams, New York city.
 759,882. Invalid bed. J. Hall and Hattie A. Paddleford, North Monroe, N. H.
 759,932. Pneumatic tire guard. T. L. Sturtevant, Quincy, and T. J. Sturtevant, Wellesley, Mass.
 760,004. Striking bag. A. Lindsay, East Orange, N. J.
 760,109. Wheel tire. J. P. Donovan, Westfield, Mass.
 760,136. Pneumatic cushioned vehicle wheel. D. F. Minahan, Jr., Orange, N. J.
 760,147. Tire for vehicle wheels. C. J. Pigeon, Paris, France.

- 760,237. Vehicle tire. L. G. Nilson, assignor of two thirds to M. and H. S. Fischer, all of New York city.
 760,254. Automatic weather strip. L. Rottler, St. Louis.
 760,285. Vehicle wheel. H. Watkins and W. A. Menge, Utica, N. Y.
 760,339. Finger pad. J. G. Marsh, Manchester, N. H. [Illustrated in THE INDIA RUBBER WORLD, April 1, 1904—page 239.]
 760,374. Elastic exercising apparatus. T. Belvoir, New Southgate, England.
 760,392. Attachment for rugs [to prevent slipping]. S. Gilliam, Buffalo, N. Y.

Reissue.

- 12,219. Rubber tread. R. E. Foster, East Boston, Mass., assignor by mesne assignments to the Foster Rubber Co. [Original No. 695,298, dated March 11, 1902.]

Trade Mark.

- 42,640. Insulating tape. The Standard Paint Co., New York city. *Essential feature.*—The letters and character P & B. Used since Feb. 15, 1890.

ISSUED MAY 24, 1904.

- 760,710. Hose coupling. J. E. Simpson, Frederic, Mich.
 760,800. Rubber dam holder and cutter. F. R. Nice, Lansing, Mich.
 760,829. Fountain pen. O. E. Weidlich, Cincinnati.
 760,856. Hose coupling. R. M. Dixon, East Orange, N. J., assignor to Safety Car Heating and Lighting Co.
 760,880. Waterproof suit. N. B. Lawson, Muskegon, Mich.
 760,948. Valve for swimming bag. H. A. Ayvad, Hoboken, N. J.
 760,952. Hose puller and wringer. J. A. Britton, Bethlehem, Pa.
 761,024. Coupling for airbrake hose. A. F. Allan and J. A. Lenhoff, Wilmington, Del.
 761,054. Rubber belt. J. W. Blodgett, assignor to The N. Tire Co., both of Chicago.

Trade Mark.

- 42,680. Rubber tires for vehicles. J. M. MacLulich, London, England. *Essential feature.*—The word SIRDAR. Used since Sept. 28, 1898.

ISSUED MAY 13, 1904.

- 761,078. Dish washer. Darlington T. Jones, Chicago, assignor, by mesne assignments, to the Domestic Utilities Co., New York city. [Illustrated in THE INDIA RUBBER WORLD, May 1, 1904—page 280.]
 761,129. Method of covering elastic bands. J. and F. N. Ashworth, Somerville, Mass.
 761,151. Machine for attaching, tightening, and clamping wire hose bands. W. A. Cummings, Spokane, Wash.
 761,162. Steam hose coupling. E. H. Gold, Chicago.
 761,217. Rectal syringe. E. A. Gilbert, Jamestown, N. Y.
 761,228. Vapor bath. C. E. Hurley, Grand Rapids, Mich.
 761,235. Catheter [having an inclosed air cell in its distal end]. I. F. Kepler, Akron, Ohio, assignor to The B. F. Goodrich Co.
 761,335. Vehicle tire. J. A. Swinehart, Akron, Ohio.
 761,367. Tree tapping tool [for use on rubber trees]. W. E. Fish, Racine, Wis.
 761,446. Inflating pump for pneumatic tires. N. F. Canepa, St. Louis.
 761,457. Tire fastening device. J. T. Dickey and C. D. Derry, Barberton, Ohio.
 761,491. Pneumatic tire cover. T. Houben, Verviers, Belgium.
 761,505. Faucet connection. B. D. Knickerbocker, assignor to Knickerbocker Manufacturing Co., both of Chicago.
 761,506. Crutch [with rubber ground pad]. A. G. Kreimer, Cincinnati.
 761,520. Calendering or friction coating fabrics with rubber. P. M. Matthew, Edinburgh, Scotland.
 761,555. Hose coupling. J. W. Stuart, Plain City, Utah.
 761,590. Playing ball [for golf]. Eleazer Kempshall, Boston.

Trade Marks.

- 42,739. Flexible insulated electric light cords. F. S. Minott, New York city. *Essential feature.*—The representation of cords twisted together and a rectangular blank space appearing in the representation approximately at the middle thereof. Used since Jan. 2, 1904.
 42,740. Insulated wires and cables. F. S. Minott, New York city. *Essential feature.*—The word GRICO. Used since Jan. 2, 1904.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENTS APPLIED FOR—1904.

[* Denotes Applications from the United States.]

- 7,772. R. A. Smith, London. Interchangeable boot heel. Apr. 2.
 7,889. H. Sidebottom, Manchester. Golf ball. Apr. 2.
 7,795. V. de Karavodine, London. Utilization of waste vulcanized rubber. (Communicated from France.) Apr. 2.
 7,810. F. J. Chary, London. Elastic tire. (Communicated from France.) Apr. 2.
 8,006. A. Whiteway and C. Macintosh & Co., Ltd., Manchester. Improvement in tiles. Apr. 7.
 8,007. Patrick Millar Matthew, Edinburgh. Manufacture of revolving heel pad and apparatus therefor. Apr. 7.
 8,025. F. H. Sterling, London. Pressure indicating gage for pneumatic tires. Apr. 7.
 8,072. P. Cruickshank, Glasgow. Manufacture of golf balls. Apr. 8.
 8,086. J. Galbraith, London. Solution injector for tire repairs. Apr. 8.
 8,109. G. E. Heyl-Dia, London. Pneumatic tire. Apr. 8.
 8,166. M. Haworth, Halifax. Pneumatic tire. Apr. 9.
 8,242. R. B. Cohen and A. J. Killeen, Birmingham. Fountain pen. Apr. 11.
 8,281. E. P. Youngs, London. Pneumatic tire for vehicles. Apr. 11.
 8,317. E. D. A. Mathey, London. Elastic wheel for vehicles. (Communicated from France.) Apr. 11.
 8,320. C. Menke, London. Extensible and detachable side rim for wheel having rubber tires. Apr. 11.
 8,371. C. W. Gittins, Liverpool. Boot heel and sole. Apr. 12.
 8,424. B. J. Corder, London. Pneumatic tire. Apr. 12.
 8,586. W. Hill, G. W. T. Leeson, and The County Chemical Co., Ltd., Birmingham. Portable tire repairing vulcanizer. Apr. 14.
 8,587. G. J. Washbourne, Birmingham. Pneumatic tire. Apr. 14.
 8,670. W. J. Cooper and J. P. Jorgensen, Dursley, Gloucester. Pneumatic tire. Apr. 14.
 8,691. Jan Mijs Az, London. Improved treatment of vulcanized Caoutchouc. Apr. 15.
 8,697. J. Crosland and British Insulated and Helsby Cables, Ltd., London. Improvements in golf balls and manufacture of the same. Apr. 15.
 8,809. J. Shepherd, London. Elastic tire. Apr. 16.
 8,813. G. C. Mandleberg, London. Manufacture of waterproof fabrics. Apr. 16.
 8,828. W. Drury and F. H. Medhurst, London. Pneumatic tire and rim therefor. Apr. 16.
 8,893. I. Guilot, Liverpool. Resilient wheel. Apr. 18.
 8,898. F. J. Best, London. Prevention of slide slip and puncture of tires.
 8,900. A. von Lude, London. Means of securing tires to motor wheels. Apr. 18.
 8,928. J. L. Brown and B. King, London. Tire protectors. Apr. 19.
 8,940. C. Challiner, Manchester. Vehicle tire. Apr. 19.
 9,004. W. Bentley, Liverpool. Motor tire. Apr. 19.
 9,010. P. J. Neate, London. Means of piercing small rubber articles. Apr. 19.
 9,047. T. Gare, Manchester. Vehicle tire. Apr. 20.
 9,094. A. Ellis, London. Heel pad. Apr. 20.
 9,100. J. C. Verey and J. B. Bessey, London. Resilient tire. Apr. 20.
 9,121. P. Dick, London. Mold for golf balls. Apr. 20.
 9,148. E. G. Pett, Tramore, Ireland. Elastic airtight bottle cap. Apr. 21.
 9,160. F. W. Farr and J. Power, Northampton. Protector for boot heel. Apr. 21.
 9,188. R. Price, London. Non skidding solid tire for motors. Apr. 21.
 9,217. A. H. Brancroft, Church, Lancashire. Detachable band for pneumatic tires. Apr. 22.
 9,234. J. Butler, Manchester. Pneumatic tire and wheel rim. Apr. 22.
 9,278. T. Sloper, London. Elastic tire. Apr. 22.
 9,281. C. Marter, London. Manufacture of golf balls. Apr. 22.
 9,318. J. B. Scammell and E. A. Muskett, London. Insulating and waterproofing composition. Apr. 23.
 9,321. Deborah Nemirovsky, Birmingham. Tire valve. Apr. 23.
 9,330. S. de Pont, Manchester. Golf ball. Apr. 23.
 9,400. H. W. Hepburn, Llandudo, Wales. Pneumatic tire. Apr. 25.
 9,432. R. W. Sampson, London. Hot water bottle. Apr. 25.
 9,466. W. Page and W. Jones, London. Wheel rim and tire. Apr. 25.
 9,505. J. and J. Cairns, Glasgow. Tire. Apr. 26.
 9,510. H. J. Graisman, London. Elastic fabric. Apr. 26.
 9,556. T. G. Williams, Liverpool. Hose coupling. Apr. 26.
 6,582. I. G. Samuel and A. Baker & Co., Ltd., London. Fountain pen. Apr. 26.
 9,631. A. Lafargue, London. Resilient tire. Apr. 27.
 9,644. W. Youlten, London. Tire for vehicles. Apr. 27.
 9,827. W. C. Wilkinson, London. Atomizer for medical purposes. Apr. 29.
 9,857. J. Black and C. Davies, Liverpool. Pneumatic tire for cycles and vehicles. Apr. 29.
 10,092. E. L. Curbishley, Manchester. Design to be used on pneumatic tires. May 3.
 10,096. H. Thomson, Lockee. Pneumatic and cushion tire. May 3.
 10,169. W. P. Thompson, Liverpool. Mold for pneumatic tires. (P. Eichmann, Germany). May 3.
 10,175. H. J. Haddan, London. Vaginal syringe. (Meinecke & Co., New York). May 3.
 10,253. G. F. Mason, London. Pneumatic tire. May 4.
 10,267. J. E. Davidson, London. Boot heel. May 4.
 10,274. E. F. Piers, Bart., London. Resilient wheel. May 4.
 10,277. C. Dutordoir, London. Detachable tread for pneumatic tire. May 4.
 10,315. A. Pearse, London. Cycle and motor tire. May 5.
 10,404. A. I. Rath, London. Method of reclaiming rubber. May 6.
 10,405. A. I. Rath, London. Mold for vulcanizing rubber tires and solid or hollow cords and strips. May 6.
 10,432. J. McConechy, Glasgow. Pneumatic tire for vehicles. May 6.
 10,433. W. B. Lakeman, Devonport. Pneumatic cleaner for pipes and tubes. May 6.
 10,442. John Hancock Nunn, London. Means of securing hard and soft rubber tires to rims. May 6.
 10,520. A. E. Moore, London. Boot heel. May 7.
 10,522. R. B. Black, London. Protector for rubber and ink erasers. May 7.
 10,596. W. Bradley, Manchester. Pneumatic tire for cycles or motors. May 9.
 10,710. M. R. Zochlin, Berlin, Germany. Elastic tire with imbedded springy ring. May 10.
 10,712. W. G. Weston and The "Imperial" Tyre and Rubber Co., Ltd., London. Non skidding tread for tires. May 10.
 10,718. H. and J. Howarth, Manchester. Non slipping cover for tires. May 10.
 10,859. W. B. Hartridge, London. Pneumatic tire. May 11.
 10,931. A. F. Cole, Kidderminster. Fountain pen. May 12.
 10,947. M. Foggarty and J. Tennant, Manchester. Fountain pen. May 12.
 11,029. I. Frankenburg & Sons, Ltd., R. J. Frankenburg, and F. H. Betteridge, Manchester. Golf ball. May 13.
 11,036. T. Cummings, Nottingham. May 13.
 10,044. J. S. Crowley, Manchester. Fountain penholder. May 13.
 11,100. F. Barlow, London. Tire for cycles and vehicles. May 13.
 11,132. T. Hartley, Manchester. Pneumatic boot tree. May 14.
 11,199. J. C. Maxwell, Glasgow. Heel for boots. May 16.
 11,231. T. A. Jenner, London. Prevention of side slipping of motor tires. May 16.
 11,244. C. De Buren, London. Improved construction and manufacture of golf balls. May 16.
 11,304. J. Galbraith, London. Repair device for tire punctures. May 17.
 11,309. S. W. Martyn, Sheffield. Device for connecting rubber tubes. May 17.
 11,297. R. McGregor, Glasgow. Elastic tire for cycles and motors. May 17.
 11,318. S. W. Wharton, London. Boot heel. May 17.
 11,340. J. Pollock, London. Valve for pneumatic tires. May 17.
 11,370. J. J. Harrison, London. Means of securing heel pads to boots. May 17.
 11,374. A. Harrison and F. Smart, London. Elastic tire. May 17.
 11,417. S. J. Barlett and J. Tumulty, Manchester. Manufacture of tire covers. May 18.
 11,420. J. Woodhead & Sons and S. Sheard, Leeds. Apparatus for mounting rubber tires. May 18.

PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 30, 1904.]

- 28,227 (1902). Toe cap for boots. R. Schwarzwald and M. Urbahn, Hamburg, Germany.
- * 28,392 (1902). Massage appliance. L. Casper and Hygeia Vibratory Co., Chicago, Illinois.
- * 28,393 (1902). Bottle stopper. W. F. Dorman, New York.
- 28,514 (1902). Pneumatic tire. C. Jenatz, Brussels, Belgium.
- 28,522 (1902). Pneumatic tire. H. J. Haddon, London. (J. Lacroix, Paris.)
- 28,625 (1902). Revolving heel pad. A. Briggs, Market Harborough.
- 28,659 (1902). Foot protector for animals. C. W. Herbert, Leicester.
- 28,750 (1902). Golf ball. W. H. and H. Southon, London.
- * 28,771 (1902). Elastic tire. C. W. Hunt, New York.
- 28,888 (1902). Pneumatic tire. W. H. Barratt, Bristol.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 27, 1904.]

- 129 (1903). Respirator. B. Loeb, Cologne, Germany.
- 147 (1903). Heel protector. E. W. Wooders, Bredbury, Cheshire.
- 168 (1903). Elastic tire. G. Swindin, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 4, 1904.]

- 337 (1903). Change protector for solid cushion or pneumatic tire. H. Bremer, Nehelm a/Ruhr, Germany.
- 366 (1903). Apparatus for removing dust from carpets. S. Simmons, London.
- 382 (1903). Heel protector. F. Town, Halifax.
- 489 (1903). Pneumatic suspension wheel for vehicles. P. Weir, Bristol.
- 600 (1903). Surgical truss. J. Wibler, Wiesbaden, Germany.
- 631 (1903). Elastic tire [with metal springs inside a rubber cover]. G. S. Ogilvie, Woodbridge, Suffolk.
- 676 (1903). Elastic tire. E. E. Hill, Walton-on-Thames.
- * 681 (1903). Hypodermic syringe. A. J. Boulton, London. (T. J. Lynch, Marietta, Pennsylvania.)
- 753 (1903). Pneumatic tire cover. [The "Palmer Cord" feature described in THE INDIA RUBBER WORLD, January 1, 1904]. Christian H. Gray, Silvertown, and T. Sloper, Wiltshire.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 11, 1904.]

- 801 (1903). Revolving boot heel. R., H. J., and E. W. Harris, Bristol.
- 815 (1903). Pneumatic tire. J. F. Pease and E. Schumacher, Darlington.
- * 841 (1903). Boot heel. M. Bray, Newton, Massachusetts.
- * 868 (1903). Vulcanizer for rubber stamps. R. H. Smith, Springfield, Massachusetts.
- 875 (1903). Pneumatic tire [with emergency air tube between the ordinary tube and the wheel rim]. G. C. Marks, London. (Communicated from New Zealand.)
- 1,094 (1903). Pneumatic tire [with protecting band]. V. Gallien, Paris, France.
- 1,126 (1903). Boot sole. H. Attneave, London.
- 1,139 (1903). Air cushion. A. Pulbrook, Hammersmith, Middlesex.
- 1,142 (1903). Respirator [for miners' use]. A. Pollard, London.
- 1,237 (1903). Pneumatic tire [with special rim]. R. Kronenberg, Ohligs, Prussia.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 18, 1904.]

- * 1,277 (1903). Window strip. W. Steger, Marietta, Ohio.
- 1,282 (1903). Pneumatic tire [with means to prevent slipping]. J. H. W. Fitzgerald, London.
- 1,284 (1903). Apparatus for vulcanizing tire covers. F. Ornstein, Victoria, Australia.
- * 1,420 (1903). Pneumatic tire [with air chamber in sections]. C. Miller, Binghamton, New York.
- * 1,435 (1903). Elastic tire for vehicles. W. C. Lilly, Akron, Ohio.
- 1,546 (1903). Vehicle wheel [pneumatic cushions connected to the hub, with or without rubber tires]. A. F. Hawksley, Altrincham.
- 1,549 (1903). Pneumatic tire [formed from a number of separate rubber balls]. W. H. Sewell, Belfast.
- 1,715 (1903). Water bottle [with removable bottom to permit the insertion of ice]. C. Serre, Paris, France.
- 1,765 (1903). Inhaler. J. E. Arnold, London.
- 1,802 (1903). Non slipping pneumatic tire. J. Lees, Manchester.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MAY 26, 1904.]

- 1,914 (1903). Pneumatic tire [capable of being ridden after the inner tube has been deflated]. M. Manuel, Mulhausen, Germany.

- 1,951 (1903). Solid rubber tire. J. D. Roots, London.
- 2,022 (1903). Solid rubber tire. S. J. Lilley and T. P. Buckton, Leicester.
- 2,049 (1903). Golf ball. A. B. Dexter, London.
- 2,073 (1903). Pneumatic tire [designed to be free from side slipping]. A. Prinzhorn, Continental Caoutchouc and Guttapercha Co., Hanover, Germany.
- 2,141 (1903). Pneumatic tire [wheel with two tires side by side]. A. Nicholson, Dublin.
- 2,181 (1903). Pneumatic tire. E. Midgley, London.
- 2,221 (1903). Pneumatic tire. J. E. Griffith, Upper Bangor, North Wales.

GERMAN EMPIRE.

PATENTS GRANTED.

- 152,520 (Class 34c). Elastic ring for brass buffing machines. Gustav Robinson, Dresden Lobtau. May 11.

DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].

- 221,300 (Class 42b). Instrument for measuring diameters of rubber hose. Meyerhoff & Co., Cassel. Apr. 20.
- 222,771 (Cl. 30b). Nose obturator, consisting of a rubber bag provided with stiff longitudinal cut off channel. H. Middendorf, Magdeburg. May 4.
- 222,307 (Cl. 63c). Cellular tire. Albin Freiherr von Reitzenstein, Berlin. May 4.
- 222,571 (Cl. 63c). Tread for pneumatic or tires consisting of alternate cross plates of rubber and metal, to prevent skidding. O. Franzel and H. Sartorius, Bochum. May 4.
- 222,695 (Cl. 63c). Protective band for pneumatic tires in the form of segments wholly or partly of rubber. C. Birkenstock, Frankfurt a/M. May 4.
- 222,666 (Cl. 71b). Shoe laces of rubber, having a metal slide. K. Hossa, Mungeln. May 4.
- 222,610 (Cl. 72b). Rubber file head, provided with a protective plate. I. G. Schrodle, Ideal Sport- und Spiel Fabrik, Nürnberg-Schweinau. May 4.
- 222,731 (Cl. 15b). Press appliance for dyeing, consisting of a rubber roller for applying the color and an elastic plate for taking up and supplying the same. G. Tietze, Leipzig-Auger. May 11.
- 223,060 (Cl. 34b). Rubber collecting plate, for head walters. W. Baskin, Karlsruhe i/B. May 11.
- 223,241 (Cl. 47f). Rubber coupling for hose. S. Taul, Aachen. May 11.
- 223,250 (Cl. 77f). Inflatable rubber figures which, by means of heavy material within them, may be made to stand. Gummi-fabrik bei Melle. Wortman & C. Borsch, Melle. May 11.

APPLICATIONS.

- 36,169 (Class 30d). Dental rubber plate. Rosa Bauer, Cologne. Apr. 20.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATE OF APPLICATION).

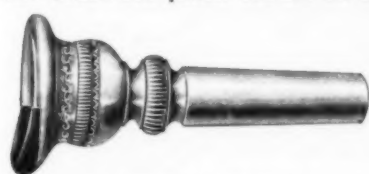
- 338,206 (Dec. 17, 1903). L. Nioré. Protector for pneumatic tires.
- 338,242 (Dec. 16, 1903). Ciceolini and Legoun. Anti-slipping pneumatic tire.
- 338,265 (Nov. 13, 1903). J. Merle. Extensor for the manufacture of pneumatic tires.
- 338,331 (Dec. 19, 1903). R. Haberland. Pneumatic tire.
- 338,341 (Dec. 23, 1903). C. Dutordoir. Anti-slipping band for rubber tires.
- 338,343 (Dec. 21, 1903). L. Lainé. Repair strip for pneumatic tires.
- 338,369 (Dec. 24, 1903). Salder. Rubber tire.
- 338,474 (Nov. 21, 1903). Foulquier. Jointed detachable rim for pneumatic tires.
- 338,501 (Dec. 19, 1903). Troquette. Elastic tire.
- 338,604 (Dec. 11, 1903). Process of vulcanization for rubber tires.
- 338,630 (Dec. 2, 1903). M. Vivian. Anti-slipping tire.
- 338,669 (Dec. 29, 1903). W. E. Amsnon. Machine for covering or for insulating flat metallic wires.
- 338,729 (Dec. 18, 1903). E. J. Fort. Metallic protector or elastic metallic chamber, applicable to vehicle wheels.

[NOTE.—Printed copies of specifications of French patents may be ordered from R. Bobet, consulting engineer, 16, avenue de Villiers, Paris, at 50 cents each, postpaid.]

NEW GOODS AND SPECIALTIES IN RUBBER.

RUBBER CUSHION FOR CORNET MOUTHPIECE.

It is asserted that without artificial aid few persons can become proficient cornet players. If lacking good facial muscular development, perfect jaw and teeth formation, or having thin lips, something must be done by art to make up for the defects. The use of India-rubber cushions for the mouthpieces of such instruments is not new; indeed, the success of what has become one of the largest factories in the world for making brass and silver musical instruments, may be credited to the invention by Mr. Charles G. Conn, of Elkhart, Indiana, of an application of rubber in this field. The idea is said to have come to him while, working as a jeweler, he was repairing a horn. At any rate, by the time his first patent had expired, in 1894, Mr. Conn was a millionaire, had been mayor of his town several times, was a member of congress, and owned newspapers at the national capital and elsewhere. But Mr. Conn's first patent was not his last.



SIDE VIEW OF MOUTHPIECE.



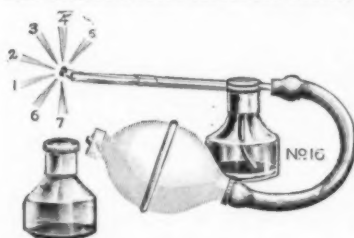
END VIEW.

[The dark shading in the cuts indicates the position of rubber cushions.]

one. The two cuts herewith illustrate a new "Compensating Cornet Mouthpiece," with flexible projecting cushion, for which United States patent No. 747,591 was issued December 22, 1903. "As no pressure [on the metallic mouthpiece] is needed to keep the lips from leaking or to reduce the unevenness of the lips to an even surface, the buccinator muscles are brought into use and given free control of the lip tissue, and the various tones are made with greater ease." [C. G. Conn, Elkhart, Indiana.]

DE VILBISS UNIVERSAL ATOMIZER.

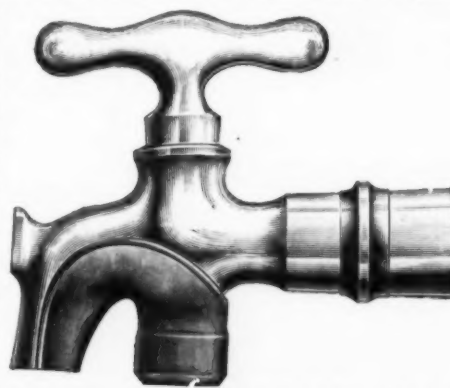
THE recognized prevalence of nasal catarrhal diseases renders desirable some means for effective self treatment by very many patients. Not less important than the prescription of a suitable remedy in any case is the choice of an atomizer which will give the necessary application to the affected parts, and this should be one which the patient can use conveniently and with satisfaction. Some of the advantages of the De Vilbiss Universal Atomizer—one style of which is illustrated herewith—are that it can be used to spray any liquid, oil, aqueous or alcoholic solution; the point can be turned in any direction; it will throw a spray from any bottle, or from a tumbler or other open receptacle; the connection is made to the bottle by a flexible cap; the force of the spray can be regulated easily; all parts are interchangeable, so that if one be broken, it can be replaced. The same principle is involved in construction of other devices made by the same company, including, for example, dental syringes. [De Vilbiss Manufacturing Co., Toledo, Ohio.]



STEELE'S PATENT RUBBER FAUCET GUARD.

THE object of this invention is to shield glasses from coming in contact with metal faucets, and thus to prevent the chipping

and breaking of glasses and the dropping of chips into the beverage. It consists of a rubber guard made to fit all ordinary beer faucets, for instance, and is readily attached



or detached from faucets. A reference to the illustration will readily show the rubber guard attached to an ordinary faucet. This appears to be a very practical article, for which a wide demand is in prospect. United States patent No. 739,031, granted September 15, 1903, to Andrew Steele. [Mattson Rubber Co., No. 26 West Broadway, New York.]

"PERFECTION" SAFETY VAPOR AND SHOWER BATH.

THE bath here illustrated serves the purpose of the vapor baths of the ancients, of which the ordinary Turkish bath has

for many years been the successor. But it renders unnecessary the expense and trouble of the Turkish bath; moreover, it can be taken regularly, in but a few minutes' time, in one's own house. The "Perfection" bath includes a water fountain which is filled with the pull of a nickel chain from the main supply, with either hot or cold water; a water mixing valve placed on the main standpipe for use when there is an unequal water pressure between the hot and cold water supply; and a coil steel spring balance attached to a wall bracket and connected to a large curtain ring with brass sash ribbon. The slightest touch will raise or lower the curtain, it being so constructed as to remain at any height where placed. No plumbing is required in mounting this device over any bath tub; only two screws in the wall are needed to hold it in place.



The usual outfit complete includes white rubber curtain, stool, aluminum lamp, and coil spring balance. There may be obtained in addition a water fountain, including fine rubber hose, bulb, and syringe. The illustration herewith shows the fixtures in readiness for a shower bath; only a few moments are required for adjusting it for taking a vapor bath. [Vapor Shower Bath Co., Cox building, Rochester, New York.]

THE "WURKEZE" BILGE PUMP.

THE device here illustrated is intended for use on launches



and small yachts. It is made of brass, with polished barrel, with hardwood piston handle, and a 5 foot length of hose attached. It is made in two sizes. No. 1 is 16 inches high, with a capacity of 6 gallons per minute; No. 2 with a height of 17 inches, has a capacity of 12 gallons per minute. At the bottom of the barrel a sieve is placed, to prevent the suction of foreign articles into the pump. [The Marine Hardware Co., Peabody, Massachusetts.]

THE ALLEN FOUNTAIN BATH BRUSH.

THE Allen fountain brushes, for use in hot or cold baths, are made of bristles, having backs perforated for the flow of water,



conveyed through the handles when connected by rubber tubing with the bathroom faucet. The brushes are made

in various styles, one of those illustrated herewith, the "Superb", having back and handle of hard rubber. The other two styles shown have backs of hard wood. These brushes are intended to be sold with "outfits", including tubing and other accessories. A specialty is made of the portable outfit, for use in traveling, or in general where bathroom facilities are lacking. The supply of water in such cases is derived from an enamelled metal fountain or reservoir, arranged to be suspended from the wall; or, 3-quart rubber water bags may be used. The portable outfit includes also a "safety floor mat", made of waterproof material, 36" x 36" or 50" x 50", upon which the bather stands while taking a bath. These mats have upturned edges, or rim, the larger size holding 6 gallons of water. There is a special "shampoo" brush, and likewise brushes for horses and dogs. One feature of the outfits supplied with these brushes is a



SAFETY FLOOR MAT.

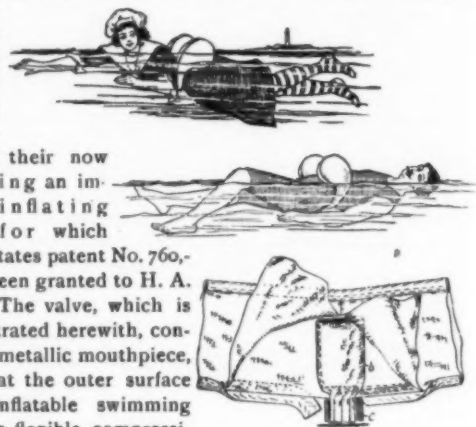
water shut-off and regulator—a small device, including thumb-screw, which is slipped over the rubber tubing to control the flow of water. These brushes have been on the market for some time, but the accessories have gradually been improved and their number increased, the latest addition being the bath mat, for which United States patent No. 745,553 was granted recently to Willard E. Allen. [The Allen Manufacturing Co., No. 436 Erie street, Toledo, Ohio.]

AYVAD'S "WATER WINGS"—A NEW VALVE.

A SMALL novelty which has met with a very wide sale in this country and abroad is that shown in the illustrations—Ayvad's Water Wings.

They are mentioned here on account of their now

including an improved inflating valve, for which United States patent No. 760,948 has been granted to H. A. Ayvad. The valve, which is also illustrated herewith, consists of a metallic mouthpiece, exposed at the outer surface of the inflatable swimming bag, and a flexible, compressible valve tube of woven fabric attached to the mouthpiece and extending therefrom to between the compressible walls of the bag, the ends of the bag binding being stitched to the edges of the valve tube. [The Ayvad Manufacturing Co., Hoboken, New Jersey.]

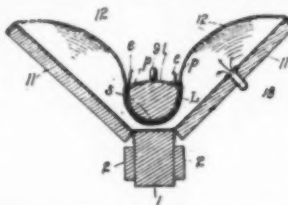


THE NEW VALVE.

APPARATUS FOR LASTING SHOE UPPERS.

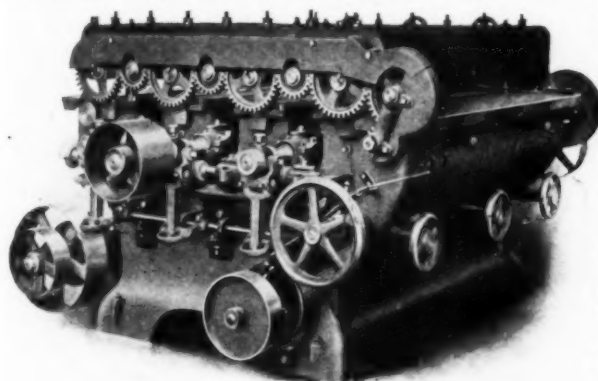
THE cut herewith relates to a new apparatus for applying the outer rubber layer to a shoe upper, designed to dispense in a great measure with hand labor, and at the same time to insure uniform results. Under the existing method of construction of rubber uppers, the lining and the insole are first mounted on a last supported right side up, the blank forming the outer upper layer being deftly passed by hand over the stockinet, beginning at the middle of the upper, then passing it forward and along the sides, and then rearward. But with the hands it

is not always possible to cause this layer to adhere uniformly throughout its entire area, and in consequence air will find a lodging place at points between the rubber layer and the stockinet, to be expelled eventually by a roller passed over the completed upper—an operation requiring considerable time. This new apparatus introduces a method of applying the rubber layer by pneumatic pressure, the rubber blank be caused to progressively adhere to the stockinet under the action of an inflatable bag or diaphragm (marked 12 in the cut), which in the process of inflation gradually envelops the last and stockinet mounted on it, such gradual envelopment forcing the rubber layer against the last and causing the same to adhere to the stockinet. United States patent No. 761,356, issued May 31, 1904, to William H. Burritt, of St. Louis.



BUFFING MACHINES FOR RUBBER WORK.

NEARLY every mechanical goods factory has more or less need for a machine for grinding or buffing rubber surfaces as, for example, in the grinding of printers' blankets, deckle straps, heavy rubber sheet stock, sheet tiling, and so forth. Such machines are frequently homemade contrivances, and, being usually single drum sanders, leave much to be de-



"ROYAL" BUFFING MACHINE FOR RUBBER SURFACES.
[Made by the Berlin Machine Works, Beloit, Wisconsin.]

sired as regards accuracy and perfection of working. The drum may consist of a rubber covered iron base, upon the surface of which sand paper is glued, but is quite as often a built up wooden cylinder on which the sand surface is formed by dusting the sand into a coat of glue applied to the wood. The cutting drum is generally supported on two stout posts, and immediately under it is placed a much smaller rubber covered roll for supporting the stock as it is being cut or ground. A pair of small rubber covered grip rolls placed in front of the cutting drum serve to regulate the feed of the stock through the machine. There is usually an oscillating endwise motion of the cutting drum to prevent any scratching of the surface of the rubber by imperfections in the sand cutting face. With such a machine only the most ordinary buffing can be done and frequent accidents occur by holes or depressions in the surface being cut due to dirt getting underneath, correspondingly raising the surface which being buffed down level leaves a depression at that point.

For buffing large work perfectly true, no tool has been found equal to the heavy metal framed sanding machines known as the Royal sanders, of which the illustrations show a general view and details of the cutting drums and method of covering. The first machine of this type was invented in 1877. Originally a single drum machine, it was successively followed by the double and triple drum modifications, because of the demand for better work than could be done by single or double drum machines. The latest, or three drum machine, was perfected in 1895, and is very heavy, built entirely of metal in ten widths to work from 30 inches to 102 inches. The three drums are intended to carry as many different grades of paper—coarse, me-

dium, and fine. Following them on the work comes a brush cylinder for removing the dust from the finished surface, and also serving to keep the lower feed roll clean so as not to mar the finish.

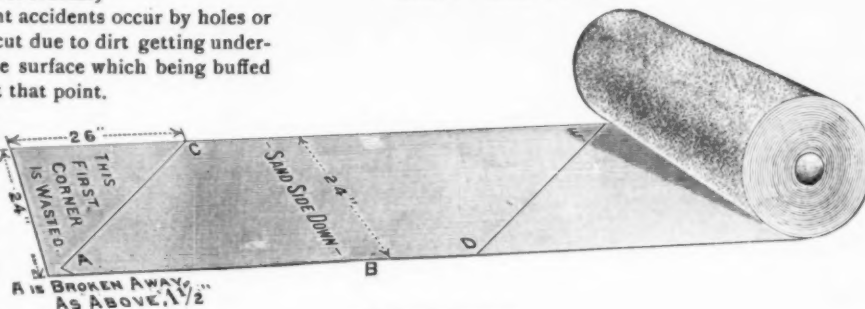
The paper can be easily and quickly applied to each drum, and in case of accident they can be conveniently removed from the machine without dismantling it. The details of the drums and the method of applying the sand paper covering spirally is shown in the illustrations. It will be noted that there is no opening for dust to enter and cause the drums to get out of balance. By thus arranging the sand paper spirally the drum is made continuous cutting. On all widths of machines the same width of sand paper is used, thus effecting a large percentage in the cost of this item. Each drum has an oscillating endwise motion for the purpose of removing any scratches which imperfections in the sand paper would otherwise leave.

Above the drums are adjustable idle pressure rolls for regulating the amount of cut desired, or by means of hand wheels at the feeding in end of the machine the drums may be raised simultaneously at each end, accomplishing the same result. Four large feed rolls above and four below the bed serve to give a steady and uniform feed to the stock passing through. There is an adjustment for each roll and platen or bed plate, and a method of locking it securely so that a proper alignment, once secured, may be maintained. The upper frame, carrying the top feed and pressure rolls, is regulated for different thicknesses of stock by means of a hand wheel or by power controlled by a lever convenient to the operator.

With such a machine it is possible to produce the most perfect and highly finished surfaces and to regulate the buffing to a nicety as regards accuracy of thickness and the true parallelism of surfaces.



DRUM OF "ROYAL" SANDER.



COVER OF SANDPAPER.

THE directors of the Amazon Steam Navigation Co., Limited, at the thirty-second annual meeting of the shareholders, in London, on June 29, recommended the payment of a final dividend 3 per cent. (7s. 6d. per share), in respect of the second half of the year 1903, making 5 per cent. for the year. This shows an improvement, the dividend for the preceding year having been 4 per cent.

RUBBER CULTURAL PROSPECTS IN MEXICO.

By George Cullen Pearson.

TO THE EDITOR OF THE INDIA RUBBER WORLD—*Dear Sir:* Some remarks of mine on rubber cultivation in Mexico, which lately appeared in a contemporary and have been somewhat widely copied, have brought me many letters of inquiry which perhaps can best be answered through the medium of your widely circulated Journal. I may add that it is six years since I commenced planting rubber in Mexico on an extensive scale as a private enterprise. My views are limited by my practical experience; beyond that I have no theories.

Rubber culture in Mexico is so recent an experiment in planting enterprise that as yet opportunities have been afforded to few to investigate thoroughly the many important questions connected with it. As with many another new industrial departure, magnified notions as to large returns to be secured in a brief period on a minimum expenditure have got abroad, fostered by wild tales having their foundation in ignorance or enthusiasm. This is all the more regrettable, as many of the statements now proven to be exaggerated have been put forward by men occupying distinguished positions in botanical science. The names of these men leave no doubt that their statements have been made in all good faith, but it is none the less to be deplored that they should have been given to the world before experience could prove their truth or falsity, as thereby loss and disappointment have been caused to many and opportunity has been afforded to unscrupulous promoters to induce investment by baiting their prospectuses with imaginary results given under names which carry so much authoritative weight.

Happily, rubber culture has no need of false encouragement based on exaggerated estimates as to results. The actual facts as proven by those who have expended much time, care, and capital in developing this new industry warrant a firm belief in its sure and lasting success.

In answer to inquiries as to Mexico being the best part of the American continent for the full development of rubber production, I can answer in the affirmative, with these reservations: In this vast country there is great diversity of climatic conditions; in the tropical region (*tierras calientes*) there are large areas totally unfit for agriculture of any kind, so that too great care cannot be exercised in the selection of land, especially for rubber culture. Fine land and favorable conditions can be secured if the necessary time and attention be given to finding them, but outside such selection the natural advantages are greater in more southern states such as Venezuela, Guatemala, Honduras, and Colombia, where there are larger areas of rich land and the rainfall is more abundant.

Given, however, the right land and district, the advantages are on the side of Mexico. The climate is equable and singularly free from the storms and cyclonic disturbances which desolate so many tropical lands and bring ruin to the planter, and is perfectly healthful if ordinary precautions be taken. In striking contrast to the unstable political conditions existing in the other countries named, Mexico possesses a firm, stable, and respected government which encourages every plan for the development of its vast resources, and is a country, which, by the aid of the increasing amount of foreign capital thus attracted, is advancing with rapid strides on a sure path of prosperity. Communication is being established by railroad construction between all principal points. Throughout the republic life and

property are as safe as in any part of the United States, whilst the law against evil doers is rigorously applied.

What is the cost of planting rubber is a question much more easily asked than answered. Let me warn the prospective planter against believing that the mere cost of setting out his plants, plus a few small items of expenditure such as figure in too many reports—even consular—will make up the sum total of his outlay until his trees shall yield of their abundance. Much depends upon the season, much upon the locality of his plantation, easy or difficult means of communication, possibilities of obtaining supplies, availability of labor, and the hundred and one requirements which can only be learned by hard experience.

Something may be learned as to the fallibility of estimates from a publication now before me, ostensibly issued as a guide to rubber planting, where I find the whole cost of acquiring, planting, and maintaining for six years, 100 acres of rubber planted land, put down at \$5390 Mexican, the Mexican dollar being calculated as worth 50 cents gold. I have no hesitation in condemning this as almost criminally misleading.

Let us examine one or two items of the estimates.

It is stated that two cleanings of the rubber a year for five years will be necessary, and the total cost of these ten cleanings is put down at \$1000 Mexican, for 100 acres.

Now, two cleanings a year are not, in my experience, sufficient, if the plantation is to be kept in the condition most beneficial to the growth of the rubber plants. There must be at least three cleanings a year, as the growth of weeds in fertile tropic soil can scarcely be believed without actual experience of it. I suppose that by unremitting attention to all details affecting the management of my own property, I do not err on the side of extravagant expenditure, yet I find that I cannot get 500 acres cleared under a cost of \$5000 at the present price of labor, and I have every advantage of locality and communication.

There should be three cleanings a year during the first three years, making nine cleanings; the next two years there should be two cleanings a year, making four cleanings; the sixth year one cleaning will suffice, making in all fourteen cleanings. I will, for the sake of argument, put these cleanings at \$750 each, and even at that low figure the cost of cleaning alone of the one hundred acres will amount in the six years to \$10,500, or double the sum laid down as the total amount required for six years' expenditure, including purchase of land.

Another item.—The living expenses of the planter for the entire six years are put down at a lump sum of \$1440 Mexican, or \$240 a year. It is to be hoped that he is calculated as a bachelor. Now I pay my lowest *peon* \$1 Mexican a day, and he is always in debt, though I suppose the Mexican agricultural laborer lives as cheaply and as miserably as any human being; perhaps the Chinese coolie beats him in economy, without the misery. I have still to learn how a decent white man can keep up his establishment on two-thirds of the amount expended by the Mexican *peon*.

While thus showing that estimates of cost should be accepted with great caution, I am not prepared, for reasons I have already stated, to give hard and fast figures as to the expenditure necessary. Rubber culture is not an enterprise for the small capitalist on any scale, making it worth his while to engage in it, while on even a moderate scale it should not be taken up unless the planter have considerable surplus funds at his command to enable

him to meet the many contingencies which are certain to arise after his calculations as to ordinary expenses have been most carefully made. I may state that my own expenditure in six years has been more than double what I calculated when I began, though my estimates were made on what was then considered a liberal scale.

Inquiries as to the yield of the rubber trees at maturity can be answered much more definitely. I am speaking of *Castilloa* rubber, that being the kind almost exclusively cultivated in Mexico, and the tree indigenous to the country. Taking the results obtained by myself from tests on a somewhat extended scale, and comparing them with those obtained by other workers in the same field, the following figures may be relied on as being the yield of well developed trees at the ages specified:

AGE OF TREE.	Yield of Latex.	Dry Rubber.
6 years	30 ounces	12 ounces.
7 years.....	38 ounces	15.20 ounces.
8 years.....	48 ounces	19.20 ounces.
10 years.....	80 ounces	32 ounces.

—the yield increasing proportionately up to a certain age of the tree, probably thirty to fifty years. The yield of dry rubber here indicated is based upon the latex yielding 40 per cent. of rubber. I have in a great number of experiments only once found the yield as low as 39 per cent., and regard 40 per cent. as a conservative estimate.

As to the age at which a rubber tree should be first tapped one must be entirely guided by its development. In this there is a great diversity, some trees maturing much more rapidly than others, though all are growing apparently under precisely similar conditions. I have obtained marketable results, though only on an experimental scale, from four year old trees, the rubber being of excellent quality, while the trees have not suffered in any way from the tapping. I believe if a tree be well developed it can be tapped safely at the end of the sixth year, but I should recommend that ordinarily tapping should not take place until the expiration of the seventh year. I am convinced, as another planter has remarked, that the size of a tree has much more to do with the amount of rubber it will produce than its age. Also that the yield of the *Castilloa* depends more on soil and climate than has hitherto been recognized.

Two important considerations for the planter yet remain unsettled—namely, in what season and by what mechanical means the tapping of the *Castilloa* can be best undertaken. The rough and ready methods of the native collector can only be accepted when, as with him, the sole desire is to obtain at a season when he can best make his way through the forest the largest amount of rubber, with utter disregard to the future life of the tree. It is this wholesale destruction by native collectors of rubber bearing trees in all countries where they are found which has concentrated attention of rubber cultivation. The present barbarous method of collecting is universally condemned by planters, while there is divided opinion as to the most suitable season for tapping. These points are requiring earnest study for their solution. Proof leaves me no doubt that the *Castilloa* can be tapped twice a year without suffering any harm, provided sufficient time be allowed to lapse between the two operations to enable the tree to recover its strength. I do not believe that the yield will be thereby doubled, but the result will be a material increase of production.

Fortunately the *Castilloa* is not a tree which succumbs readily to injuries. Once it is safely through the caprices of the first year, and well rooted in suitable soil, it is indeed hard to destroy; while it appears to be subject to none of the insect visitations or fungoid growths affecting so many other trees under cultivation.

So far as regards the preparation of the rubber I would say,

so long as all impurities are eliminated, follow nature methods as much as possible. A long series of elaborate experiments have convinced me that artificial means of coagulation, as by the aid of chemicals, and infusions of native plants such as *Ipomoea bona nox* or "bejuco de necta," while bringing about speedy coagulation, have most pernicious after effects on the rubber, which show themselves within a short time, and greatly reduce its market value. It is vastly to the interest of all concerned in the production of Mexican rubber that its quality should be kept up to the standard to which it is capable of being raised.

Castilloa rubber properly prepared comes next in value to Pará, and there is no likelihood in view of the increasing demand that for many years to come sufficient supplies will be forthcoming to bring it down below 90 cents gold per pound, a figure at which some recent samples of mine have been valued in the London market. Very faithfully yours,

GEO. CULLEN PEARSON.

A REPORT ON GUTTA-PERCHA VALUES.

THE *Bulletin* of the Imperial Institute (London), of March 31, contains a report on samples of Gutta-percha forwarded to that institution from Penang, for chemical examination, with a view to determining their commercial value. These samples are stated to have been prepared under competent supervision, without any admixture of foreign matters whatever.

Mention here will be made first of the product known to the natives as "Gutta taban merah," from the forest tree *Palaequium gutta* (also known as *Dichopsis gutta*), which represents the highest type of Gutta-percha. The experts to whom this sample was referred gave its market value as 6 shillings [= \$1.46] per pound, subject to fluctuations, which may be regarded as the highest market value of Gutta-percha at present. The greater part of the gutta now marketed, however, brings very much less, not only on account of the adulterations practiced, but because of the scarcity of the particular species of *Palaequium* yielding it.

Another sample was of the material known in the Malay states as "Gutta taban putih," presumably from *Palaequium pustulatum*. This sample, showing in analysis a much greater percentage of resin, was valued commercially at 2 shillings [= 48.7 cents] per pound. The Institute was asked as to the advisability of forming extensive plantations of this species with a view to extracting gutta from the leaves at an earlier age than it would be possible to obtain it from the trees. The reply was that, in view of the yield probably being no larger than from *Palaequium gutta*, and the product being worth only one-third as much, preference should be given to planting the latter.

The tenor of the Institute's report, by the way, is hardly favorable to the proposition to extract Gutta-percha from leaves. "Several of the extraction processes," it says, "have been tried upon a commercial scale in Europe [whither the leaves were, imported from Singapore], but for various reasons the results have been very unsatisfactory from a financial point of view, and it is believed that at the present time all the factories established in Europe have practically suspended operations." It is understood that several processes are at present undergoing practical trials in the East, but it is suggested that their results should be further studied before plantations are planned on a large scale in connection with any of the processes.

Still another sample—"Gutta simpur," from *Palaequium Maingayi*—was appraised at 1s. 6d. [= 36.5 cents] per pound.

THE PRICE AND QUALITY OF RUBBER.

FROM "THE ELECTRICAL REVIEW" (LONDON).

IT has been said that general ignorance obtains on the important subject of rubber in its relation to the electrical industry. The probability is that the comment is scarcely unwarranted. Recollections of recent law cases bring back the memory of how expert witness after expert witness hurriedly disclaimed any desire to pose as the possessor of a knowledge of rubber. In one case especially, where the whole point at issue lay in the quality of the rubber used in the insulation, every other point was argued but the main one, bringing about a somewhat ludicrous state of affairs. If this lack of knowledge obtains in this branch of the industry, how much greater must it be in the others. It would be amusing were it not so serious, to hear the frequent stipulations as regards the use of the best Para in insulation, when the price quoted must necessarily forbid its use entirely, or only in a very attenuated form. The price of Para rubber has for some time been well over 4s. 9d. per lb. in its crude state, and on an average 15 per cent. of the crude rubber is lost before it finishes its course through the washing and drying processes. It may be taken, therefore, that the material ready for manufacture costs at least 5s. 6d. per lb. It is fairly easy for any reader to calculate the weight of the insulation, and the price he paid for the rubber in it, apart from anything else. On the basis of the prices which too generally obtain nowadays, the investigator will be forced to the conclusion either that the manufacturer is a philanthropist, or that the insulation is "very much mixed" rubber.

Dismissing the first hypothesis (with regret), the investigator is now face to face with the position into which his, and others', keenness in buying has forced the manufacturer. Let us make our views quite clear. There is as good insulated wire manufactured now as ever there was, but, unfortunately, much of the stuff bought nowadays does not merit this description. The manufacturer has been forced by his customers into making an insulation which would have been scorned years ago. It is true his more perfect knowledge has enabled him to use his materials to better advantage, but the process of cheapening must have an end somewhere and at some time, and it is time everyone in the electrical industry realized it; manufacturers are only to be blamed in so far that they have given way to a demand for an article at a certain price. The demand has been made by those who should be in a position to know the circumstances of the case, and to judge of what is necessary. We incline to the opinion that a more adequate knowledge of rubber and the price of it would, in a large measure, bring about a better state of affairs. It is for the credit of the industry that the work it does should at all times be work well done. How is it possible to accomplish this, when the very material that is relied upon for protection is attenuated to such an extreme degree as to scarcely hold together, far less give protection?

This may appear an exaggerated view, yet it is apparent at times at the present moment, and is the inevitable goal to which we are speeding. Rubber insulation is, and always should be a non-conductor of electricity, able to withstand the ravages of time, and the more or less accidental attacks of the elements. Good rubber insulation can do all these things better than any other practical material. Inferior rubber insulation can only do these things in the ratio of its inferiority. However skilfully chosen and skilfully prepared are the other ingredients of a rubber-cum-something-else insulation, it must always be remembered that none of these can supplant rubber in its properties, and most of them tend to its earlier disinte-

gration and the consequent loss of its properties. It lies with the electrical industry to say how much further the cheapening process on certain classes of work is to be carried. It is its credit, and its credit alone, that is imperilled. It is nothing to the public that the contractor may have had the fixing of the price. The makers had the expert knowledge, and with them rested (in the opinion of the public) the right to say what quality of material should be used.

We know, of course, that so long as any man has the power (no matter whether he be the most ignorant on earth) to use the title of electrician, so long will there be those to whom the credit of the industry is as nothing. No appeals would touch such a man, except an appeal to his pocket. It is to the more responsible members of the industry that we put the question, whether it is not time to cry a halt to this process of dangerous cheapening?

THE "NEW METHOD" FOR WRINGER ROLLS.

BY A WRITER IN THE "GUMMI-ZEITUNG."

I WAS interested in reading the article in No. 12 of the *Gummi-Zeitung*,* and admired the ingenuity of American manufacturers. But, only the ingenuity, because the method itself has, in my opinion, nothing in it to be admired, and the poor consumers who have to use such rolls are to be pitied. However, I will not neglect to make experiments with the new method, as described, and satisfy myself by actual facts, but already I feel the occasion to make the following comments on this theme.

First of all, I cannot see what "materially cheapening" this method of manufacture possesses. The soft rubber of the roll covering is drawn on a tubing machine, slipped onto hollow mandrels and wrapped, tied, vulcanized, unwrapped, smoothed, and cut to proper length. Now the iron core of the roll is heated its whole length to a dull red and is thrust into the roll, withdrawn, cooled in water, and again inserted.

Rubber melted in this manner by heat has no exterior smooth surface; drops of water will adhere in places from whence they cannot be wiped away, because everything coming in contact with this half-burnt bad smelling mass sticks to it. The drops of water, therefore, would remain between the covering and the axle, and are certainly not conducive to a firm union.

The total time required in this method is at all events no less than that consumed in the manufacture of wringer rolls by the method now in general use and approved, or in the method which I will describe further on.

It is very doubtful whether a roll cover made by the new method would adhere firmly, and I believe that the majority of the practically experienced rubber technologists are on my side when I take the liberty to at least strongly doubt it. The hard rubber is used in the manufacture of roll covers for the purpose of making an "iron strong" attachment between the axle and the soft rubber covering of the roll, and those who have witnessed the extreme force used in squeezing the laundry through the wringer rolls, or have examined worn out rolls critically, must be convinced that only the strongest adhesion is just good enough. It often occurs that the hard rubber separates from the soft rubber, if—

1. The qualities do not uniformly vulcanize;
2. The hard rubber or the inner layer of the soft rubber, or both, were not entirely clean;

* "Attaching Wringer Rolls by Melting," translated from THE INDIA RUBBER WORLD, November 1, 1903 - page 48.

3. Between the one and the other a solution lacking the necessary toughness is used or one which did not properly vulcanize.

A too small quantity of hard rubber will often be reduced to powder, or break into fragments after the machine has been used a comparatively short time only. How can it be possible that melted rubber after cooling adheres so tightly to the iron as is necessary in wringer rolls? Here the word "warehouse quality" occurs to me.

No matter how exactly cylindrical a roll cover has been ground, if it is attached according to the "new method" it is very questionable if it remains exactly cylindrical. I imagine that its surface will become wavy longitudinally. And how about the length of the so forced on stocks? Does such an expert workman exist who can cut a roll cover so exact as to have, after attachment, the same length as the axle? In most instances it will be either too long or too short. Also in regard to the perfectness of the outer diameter these roll covers will lack much that is desired. Of course for use it does not matter much whether the diameter of a roll is a little larger or smaller, but what does the dealer say if the diameter is not uniform?

A really cheap method to cover wringer rolls would be the following: The roughened axle is painted with a solution of hard rubber and after this is well dried a sheet of hard rubber compound, possessing the exact required strength, is placed around it. The seam is pressed together, not overlapping the ends. On the tubing machine a tube of soft rubber is then drawn, having a slightly smaller inner diameter than the outer diameter of the hard rubber covered axle. One end of the tube, which is a trifle longer than the length of the roll wanted, is cut off, warmed a little, and pushed over the hard rubber. This warming is not absolutely necessary. Then, with a board the tube is rolled from the center towards the ends several times, firming it, and cut off to proper length, both ends supplied with a disk, wrapped up and vulcanized. After vulcanization the roll is ground, cut off to proper length, and the ends of the axle are cleaned.

In the German market many inferior qualities of this article can already be found, and it is therefore very undesirable that additional factory methods of questionable character should be admitted. At all events manufacturers will always be thankful for any hints on really cheaper factory methods of merit.

A. W. H.

WOMAN'S RAINY-DAY APPAREL.

RAINY days no longer hurt the vanity of women. The evolution of the waterproof coat from a hideous garment to a beautiful one has been accomplished. It was only a few years ago that women were forced, through a stupid idea of what should constitute rainy weather apparel, to abandon all thought of a smart appearance when they went forth on a stormy day. Beauty and comfort are now so carefully considered in every item of the rainy-day wardrobe that a woman should appear at her best from hat to shoes and be delightfully comfortable when the rain clouds spread overhead.

Cravenette cloth, in heavy and light weights, is the unrivalled material for rain coats. It is impervious to dampness, soft, and pleasant to touch, hangs in good lines, and comes in the greatest variety of colors, shades, and fancy mixed weaves.

The cravenette coats come in full or three-quarters length. The full length is the more generally serviceable and becoming, as it covers a gown completely and emphasizes slenderness of form. The backs of these coats are box shaped, full or fitted. The fronts hang straight. Loose belts girdle most of the mod-

els. Sleeves have an easy fulness and are decidedly puffed over cuffs that appear in all possible variations of the fundamental narrow, loose cuff.

Many of the coats have slit openings in the front near the button lines for the hands to slip through. The double-breasted finish predominates, and among the most fetching buttons are those of cravenette trimmed with steel or brass. The pockets have buttoned-over flaps.

The collars are, as a rule, small, flat velvet turn-overs. Short capes, single, double or triple, form the shoulder finish of the majority of the coats, the triple capes leading in popularity.

No fixed rule governs the matter of linings. A coat may be lined throughout with silk or satin, or have lining in the sleeves only, or in the sleeves and body of the coat as far as the waist. They are substitutes for silk lining, these partially lined coats.

One finds extremes of simplicity and elegance in cravenette coats. Side by side with a dark gray of severest finish hangs a light red, long coat, satin-lined throughout, with triple cape turn-over collar of white cloth braided in red, and cravenette buttons trimmed with steel, that is quite as much intended for rain as the quiet gray model.

The cravenette coat serves the double duty of rain coat and fair weather ulster. This cannot be said of the silk rubber and satin rubber coats, for they are strictly waterproofs with their imperceptible inside finish of rubber. Though not generally useful they are extremely popular as waterproofs and are charmingly dainty and pretty.

A silvery gray silk model has a triple cape piped with white satin, white satin cuffs and high flaring collar. Another gray silk is belted with a pointed girdle richly beaded in steel. One of navy blue silk rubber has a red satin collar and cuffs and shiny brass buttons.

A box coat of creamy white satin-rubber is trimmed with a scarlet velvet collar and brass buttons. "When is such a coat worn?" "Yachting," comes the answer from distracted saleswomen who have to answer many such questions concerning these delightfully audacious coats, which come in plain and quiet styles as well as in those of a more showy order.

Cravenette leads among materials adaptable for short-skirted suits; but English cheviot, Scotch cheviot, all the materials used in men's walking suits, give a bewildering opportunity for choice to the woman who wishes her walking suit to be one to brave the elements. The weave of the cloth should be close and tight, the surface smooth rather than rough.

The skirt of a rainy-day suit should be shorter than that of the ordinary pedestrian costume, for the so-called short skirt of the season's walking suit touches the ground at the back at every step. "Five inches from the ground is the only actually rational rain skirt," says one of New York's most fashionable tailors, but, of course, there are women who will not wear so radical a departure from the conventional skirt and three inches from the ground is the compromise length. A leather binding is favored by English tailors for the rain skirt, but it is hardly necessary as a rule when the costume is made of strictly rain-proof cloth.—*New York Sun*.

THE factory director of the Gummi- und Kabelwerke Josef Reithoffer's Söhne (Vienna), Herr Josef Kunz, celebrated recently the fiftieth anniversary of his connection with the firm, which dates from 1832. On this occasion a representative of the chamber of commerce decorated him with a gold cross of merit. At the same time two foremen and three female employés, each of whom had been with the concern for 25 years or more, were decorated with the bronze medal of the trade union.

NEWS OF THE AMERICAN RUBBER TRADE.

NEW RUBBER RECLAIMING COMPANY AT AKRON.

THE Alkali Rubber Co., of Akron, Ohio, with \$1,000,000 capital, has for its objects the control of the rubber reclaiming patent of Arthur Hudson Marks (No. 635,141—October 17, 1899), and the operation of a rubber reclaiming plant for supplying the trade. The company begins operations by acquiring the reclaiming plant which the Diamond Rubber Co. have maintained for the past four years for meeting their own requirements. The officers of the new company are: A. H. Marks, president; Bertram G. Work, vice president and treasurer; George G. Allen, secretary. The remaining directors are Colonel George T. Perkins and Ohio C. Barber. It will be noticed that the official board is composed of representatives of The Diamond Rubber Co. and The B. F. Goodrich Co. Report has it that the Diamond company is to receive from the Goodrich company a handsome payment for a half interest in the new corporation. The reclaiming plant hitherto operated by the Goodrich company is to be closed, the space occupied by it to be devoted to other purposes of the company. It is understood that the Diamond plant is to be enlarged at once. Frank Peabody has been superintendent of the plant since its inception. The Marks reclaiming process consists in treating ground rubber scrap with a dilute alkali solution at a comparatively high temperature, then washing, drying, and sheeting. The same patent is the basis of the rubber reclaiming work of the Northwestern Rubber Co., Limited (Liverpool), of which Mr. Marks is president and Mr. Barber a director.

MR. WARNER GOES TO MISHAWAKA.

MR. EMMETT A. SAUNDERS, manager of the rubber department of the Mishawaka Woolen Manufacturing Co. (Mishawaka, Indiana) since its establishment, became president upon the death of Martin V. Beiger, who formerly held that office. With his added duties Mr. Saunders found too much work on his hands, and the position of manager of the rubber department has been filled by the appointment of Mr. Adna D. Warner, who since 1899 has been general manager of the Beacon Falls Rubber Shoe Co., having been formerly for a number of years factory superintendent of the Goodyear's Metallic Rubber Shoe Co., at Naugatuck.

VICTOR RUBBER CO.—SALE OF PLANT.

AT the first meeting of creditors of the Victor Rubber Co. in bankruptcy [See THE INDIA RUBBER WORLD, June 1, 1904—page 320], at Springfield, Ohio, on June 3. George S. Dial was chosen as trustee. On June 14 Trustee Dial offered at public sale the property of the company at Snyderville (near Springfield), for which the highest bidder was Daniel Snyder, at \$23,550. The company did not own the real estate occupied by their factory. It is understood at Springfield that Mr. Snyder intends to reorganize the company, with a view to putting the factory in operation again.

THE NEPONSET RUBBER CO.

AMENDED articles of incorporation have been filed with the secretary of state of New Jersey, changing the name of the Old Colony Rubber [mentioned in the last INDIA RUBBER WORLD—page 321] to the Neponset Rubber Co., the authorized capital remaining at \$125,000, and the registered office in New Jersey at No. 243 Washington street, Jersey City. The new company will engage in the manufacture of mechanical rubber goods, at Hyde Park, Massachusetts, having acquired the plant

operated by the Boston Gossamer Rubber Co., which has been idle since the retirement from business of the latter company about a year ago. J. C. Spillan and Thomas B. Pervis, Jr., both of Boston, are mentioned as the prime movers in the new enterprise.

HARTFORD RUBBER WORKS CO.—ELECTION.

At a special meeting of the shareholders of the Hartford Rubber Works Co., one of the constituent companies of the Rubber Goods Manufacturing Co., at Hartford, Connecticut, on June 7, James W. Gilson was elected a director to succeed Lewis D. Parker. At a meeting of the directors held immediately afterward, the following officers were elected:

President—CHARLES H. DALE.

First Vice President and General Manager—WILLIAM SEWARD, JR.

Second Vice President—CHARLES A. HUNTER.

Third Vice President—JUSTUS D. ANDERSON.

Secretary, Treasurer, and General Agent—JAMES W. GILSON.

Assistant Secretary and Treasurer—HENRY FLOW.

General Factory Manager—J. E. TOURTELLOTT.

General Superintendent—H. W. BIGELOW.

General Purchasing Agent—W. H. WHALEN.

The board of directors comprises the first six names on the above list, with the addition of Ernest Hopkinson. Mr. Gilson, who had been sales manager of the company, in June, 1903, was elected secretary, to which office is now added that of treasurer.

MILFORD RUBBER CO.—INCREASE OF CAPITAL.

THE Milford Rubber Co. (Milford, Massachusetts), proofof cloth for the trade, have increased their capital from \$10,000 to \$40,000, fully paid, the new shares being held by Leon Aronson, president; Harris B. Gordon, treasurer; and Joseph Aronson, a director. The company began business in Milford about six years ago on a small scale; in May, 1899, they were incorporated, with \$10,000 capital; and in the return made to the state commissioner of corporations in March last their assets figured at \$59,000. The company inform THE INDIA RUBBER WORLD: "Our reason for increasing our capital stock is, that it is the intention of the directors to have a calender put in our factory at Milford, and manufacture a general line of mechanical rubber goods."

A. W. FABER RUBBER WORKS.

THE firm of A. W. Faber (New York), pencil manufacturers, who recently acquired the plant and business of The Paramount Rubber Co. (Newark, New Jersey), are now operating the same in their own name, in the manufacture of their requirements in erasers, rubber bands, and the like. The rubber goods sold by this firm in Europe are made at their Newark factory.

AN INDIANAPOLIS RUBBER STORE.

THE only wholesale house in Indianapolis devoted exclusively to rubber goods is that of the Central Rubber and Supply Co., established and incorporated in 1894, since which time the business has grown steadily. Their premises, No. 229 South Meridian street, comprise four floors, 25×100 feet, all the space in which is utilized for the storage or display of mechanical rubber goods, carriage tires made for the company, waterproof clothing, and rubber specialties, together with a general line of mill supplies. The company's trade covers Indiana, Illinois, and eastern Ohio, and gives employment to five traveling salesmen. The mechanical goods line carried is that of the New York Belting and Packing Co., Limited. Almus G. Ruddell is

president of the company, and Arthur C. Moore secretary and treasurer.

NEW ENGLAND RUBBER CLUB.

THE executive committee of this club have arranged for the Annual Summer Outing, to take place at Clyde Park, Brookline, Massachusetts, on Tuesday, July 26, which has been made available by the courtesy of the Country Club. Details will be mailed to the members in due time, and a full attendance is desired for what the committees in charge hope to make a very pleasant occasion.—A new edition of the club's constitution and membership list, dated June, 1904, contains 183 names.

AKRON DENTAL RUBBER CO. BUY A PLANT.

THE Akron Dental Rubber Co., the incorporation of which has been mentioned lately in these pages, have purchased the buildings occupied formerly by the People's Hard Rubber Co., at Akron, together with some rubber machinery remaining on the premises, and expect to begin making goods by the end of the present month. The purchase was made from the American Hard Rubber Co., the price being reported at \$65,000. The new company will manufacture a "quick curing" dental rubber under the processes of Arthur C. Squires, together with a new seamless dress shield, and a golf ball patented by Mr. Squires.—On June 15 the company filed with the secretary of state of Ohio a certificate of increase of capital from \$25,000 to \$100,000.

RUBBER FACTORY IN CANADA FOR SALE.

THE rubber shoe factory of The Boston Rubber Co. of Montreal, Limited, is offered for sale. The company ceased operations about two years ago, after a legal decision restraining them from the further use of their "Boston" trademark, and which practically forbade them to continue without a change of their corporate title. The stock of goods on hand was disposed of, but the directors never reached an agreement whether to reorganize the company or go into liquidation. In March last it was decided, by the directors and the principal creditors, to have a liquidator appointed, in order to facilitate operations, either for the disposal of the plant or to form a new organization to carry on the business. On May 5 the court appointed as liquidator James McGoun, the secretary-treasurer of the company, who on another page of this paper advertises the plant for sale. It is understood that the property and machinery have been kept in first class condition, in readiness for operation, but the principal shareholders, not being directly connected with the rubber trade, desire to withdraw from the enterprise, provided new arrangements can be made for taking over the assets.

THE NEW RUBBER COMPANY AT BLOOMFIELD.

WILLARD P. CLARK, trustee in the matter of The Combination Rubber and Belting Co., bankrupt, on June 17 offered for sale at public auction the property of the company at Bloomfield, New Jersey, which was purchased as one item by a lawyer in the interest of a new company incorporated to continue the operation of the factory—the Combination Rubber Manufacturing Co., incorporated in New Jersey with \$150,000 capital authorized. The officers of the new company are:

President and General Manager—EDWARD H. GARCIN.
Vice President—C. A. MOORE.
Treasurer—HARRY L. HEPBURN.
Secretary—ALFRED H. HOWE.

The property included in this sale consists of more than four acres of land; the original mill buildings of The Combination Roll and Rubber Co., and the machinery in the same; a new brick building 60×150 feet, five stories high, equipped with machinery for which \$65,000 was paid not long since; together with tenements, water power, molds, patterns, etc. The mill

at Bloomfield, for the most part, has had a successful career, and the new company take charge of a going business. It is stated that during the late receivership sales were made aggregating \$108,000, the mill having been continuously in operation, though on a reduced scale. Mr. Garcin, the head of the new enterprise, is widely known in the mechanical rubber trade, with which he has been connected all his life, having devoted most of his time for 20 years past to the Trenton Rubber Manufacturing Co. Messrs. Moore and Hepburn, who are named above, are connected with the Western Electric Co., and Mr. Howe with the Waterbury Rubber Co. The factory superintendent, William C. Siberson, will continue in charge. The Combination Rubber Manufacturing Co. will have a New York office for the present at No. 149 Church street.

FAILURE IN THE CRUDE RUBBER TRADE.

ON June 8, Harry Graham Wright and William Finley Methuen, trading as William Wright & Co., brokers in crude India-rubber, 11, Oldhall street, Liverpool, made a deed of assignment to Dennistoun, Cross & Co., London. This course was rendered necessary by complications growing out of the management of the firm's branch in New York, which, for over two years, had been in charge of A. Heathcock. The firm were heavy creditors of The Victor Rubber Co. (Springfield, Ohio), whose failure was reported in this Journal last month, besides which Manager Heathcock is asserted to have indulged in speculation in rubber to a considerable extent, without the consent or knowledge of his principals. It is understood that the creditors of the New York house are bankers altogether, all purchases of rubber made from local houses having been for cash. The amount of liabilities is not known certainly, pending an examination of the books, but is believed in the trade to exceed \$200,000. Attachments have been secured against the assets in New York of Wright & Co., in favor of two banks affected, Müller, Schall & Co. claiming \$39,500 and König Brothers \$30,154. It appears that Heathcock's method was to obtain advances from the banks, based upon certain lots of rubber, which he failed to repay when the rubber was sold, but converted the funds collected from the firm's customers to making good the losses he had sustained in covering his "short" sales of rubber. Since the date of the assignment Heathcock's whereabouts have been unknown to the firm's creditors. There is no evidence of his having converted any of the firm's funds to his own use.—The house of William Wright & Co. have been established in Liverpool for more than 50 years, and the branch house in New York since 1897. The opinion seems to prevail in the trade that, under a reorganization, the Liverpool business will continue, but the future of the New York branch will depend upon the result of an examination of the late manager's accounts.

THE SCRAP RUBBER SITUATION.

OUR quotations for rubber scrap, in another column indicate a lower price level than has existed for years. The tendency has been downward since the beginning of the year, and of late decidedly so, though the impression seems to prevail that perhaps the decline has now reached its limit. The price situation is believed to be merely a reflection of the position of supply and demand. The past winter brought into use an exceptionally large amount of rubber footwear, and the collections of old rubbers this spring—under methods constantly better systematized—were likewise unusually large. At the same time the demand for reclaimed rubber in the mechanical goods branch is reported to be somewhat slack, although, on the whole, a large volume of business is being done. Hence, two factors in lowering the price of scrap rubber. Coincident with the decline of prices in this country has been a disinclina-

tion on the part of European shippers to sell, and very large stocks now exist at Hamburg and elsewhere, which ultimately must come on the market for whatever they will bring—a further element in keeping down prices. The following figures indicate the imports of rubber scrap at New York—the principal port of entry for such goods—for two years past, the decline shown being a very unusual circumstance, since usually each year's imports have been in excess of the preceding year:

	Pounds.		Pounds.
June, 1902.....	3,418,737	June, 1903.....	1,207,089
July	2,878,755	July	1,743,341
August	1,395,362	August	1,907,896
September.....	1,508,956	September.....	815,667
October.....	1,475,616	October.....	2,360,129
November.....	1,816,436	November.....	1,122,497
December.....	1,217,461	December.....	1,333,081
January, 1903....	1,233,155	January, 1904....	1,131,031
February.....	1,142,032	February.....	555,385
March.....	1,421,316	March.....	1,554,429
April.....	1,931,473	April.....	1,184,901
May.....	1,914,662	May.....	1,901,816
Total.....	21,353,961	Total.....	16,816,662

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 21	2,870	16 $\frac{3}{4}$	15 $\frac{1}{2}$	3,730	68	65
Week ending May 27	787	16 $\frac{3}{4}$	16 $\frac{1}{4}$	2,140	67 $\frac{1}{2}$	66 $\frac{3}{4}$
Week ending Jun. 4	870	16 $\frac{1}{2}$	15 $\frac{3}{4}$	520	66 $\frac{3}{4}$	65 $\frac{1}{4}$
Week ending Jun. 11	2,080	16 $\frac{3}{4}$	15 $\frac{3}{4}$	960	66 $\frac{3}{4}$	66
Week ending Jun. 18	870	17	16 $\frac{1}{4}$	440	66 $\frac{1}{2}$	66
Week ending Jun. 25	50	16 $\frac{1}{2}$	16 $\frac{1}{4}$	300	66 $\frac{1}{4}$	66

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending May 21	1,110	15 $\frac{1}{4}$	15	100	77	77
Week ending May 27	10	14 $\frac{1}{2}$	14 $\frac{1}{2}$	100	77 $\frac{1}{2}$	77 $\frac{1}{2}$
Week ending Jun. 4	40	16 $\frac{3}{4}$	15	300	77 $\frac{1}{2}$	77 $\frac{1}{2}$
Week ending Jun. 11	67	15	15	172	76	76
Week ending Jun. 18	100	15 $\frac{1}{2}$	15 $\frac{1}{2}$
Week ending Jun. 25	200	15 $\frac{1}{2}$	15 $\frac{1}{2}$	200	77 $\frac{1}{2}$	77 $\frac{1}{2}$

THE ALDEN RUBBER CO. (BARBERTON, OHIO.)

THE following circular has been issued to the trade, under date of June 13:

DEAR SIR: Owing to the fact that Mr. I. C. Alden has filed a petition in bankruptcy, a number of our customers and some of our creditors have been inquiring of us what effect this act upon his part would have upon the Alden Rubber Co.

We therefore respectfully advise that Mr. Alden has not for the past few months been connected with the actual management of The Alden Rubber Co. and this procedure will in no way affect the condition of the said company, nor in any way alter the plans of the management as now contemplated.

At the last annual meeting of The Alden Rubber Co., Mr. Alden retained the title of president of the company, but no duties whatever were attached to this office. The company is a creditor of Mr. Alden to the extent of approximately \$3000, but in no other way interested in the bankruptcy proceedings. Very truly yours,

THE ALDEN RUBBER CO.

The management of the company is in the hands of W. A. Johnston, of Akron, treasurer of the corporation. THE INDIA RUBBER WORLD is assured that the factory is now actively employed, and the business is as large as at any time in the past.—Mr. Isaac C. Alden, one of Akron's best known business men and president of the Alden Rubber Co., filed a peti-

tion in the United States bankruptcy court at Cleveland, Ohio, on June 8, asking to be declared a bankrupt. At a meeting of Mr. Alden's creditors at Akron, on June 25, Frank B. Burch was elected trustee. The liabilities are reported at \$238,126.30 and the assets \$108,113.92.

NEW INCORPORATIONS.

THE Alkali Rubber Co. (Akron, Ohio), May 19, 1904, under Ohio laws, to reclaim rubber; authorized capital, \$1,000,000. Incorporators: George G. Allen, Frank H. Waters, Joseph W. Hofbeil, Harry Williams, Clara L. Smith. Further details are given on another page of this issue.

=Watkinson Rubber Shoe Co., June 15, 1904, under New Jersey laws, to manufacture rubber boots and shoes; authorized capital, \$50,000. Incorporators: George Watkinson, Irving Watkinson, Edwin Robert Walker—all of North Clinton avenue and Mulberry street, Trenton, New Jersey, which is the location of the factory of the Empire Rubber Manufacturing Co. The new company will begin manufacturing in part of the Empire company's plant, to which additions are building for the accommodation of the Watkinson interests.

=Combination Rubber Manufacturing Co., June 14, 1904, under New Jersey laws; authorized capital, \$150,000. Incorporators: Edward H. Garcin and Harry L. Hepburn, Bloomfield, New Jersey; Alfred H. Howe, Jersey City. Organized to succeed the Combination Rubber and Belting Co. (Bloomfield).

=Rose Rubber Co., May 25, 1904, under Maine laws, to make and deal in rubber specialties; capital, \$75,000, in \$1 shares, nothing paid in. Directors: George E. Warren, Waltham, Mass.; William H. Mitchell, Melrose, Mass.; L. E. Reed, Belmont, Mass.; Horace Mitchell (president), Kittery, Maine; A. M. Meloon (treasurer), Newcastle, N. H.

=The J. Samuels Co., April 24, 1904, under Connecticut laws, to deal in boots and shoes and rubbers; capital, \$40,000. Directors: Joel Samuels, president and treasurer; Minnie Samuels, vice president; Joseph Krotoshine, secretary; Samuel E. Samuels, and Louis Samuels. Principal office and store, No. 866 Main street, Hartford, Conn. Branches: No. 23 Colony street, Meriden, Conn.; No. 364 Main street, Springfield, Mass. The company succeeds to an established business under the same name. They carry the Wales-Goodyear line of rubbers.

=The Beacon Falls Rubber Shoe Co. of Boston, June 27, 1904, under Massachusetts laws; capital, \$50,000. To have charge of the business in Massachusetts of the Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.), manufacturers of rubber footwear. Tracy S. Lewis, president and treasurer.

TRADE NEWS NOTES.

THE New York Belting and Packing Co., Limited (New York), announce that in arranging their new offices and showrooms, at Nos. 91-93 Chambers street, they have specially fitted up a room, equipping it with facilities for correspondence, telephone service, etc., for the convenience of their friends, who are cordially invited to make this their headquarters when visiting the city.

=The Safety Insulated Wire and Cable Co. (New York) have received orders recently from agents of the Japanese government for a large quantity of rubber insulated wire; from the artillery corps of the United States army for a lot of torpedo cable; and from the Commercial Cable Co. for a land cable to connect Coney Island with No. 20 Broad street, New York.

=The annual meeting of shareholders of the Consolidated Rubber Tire Co. was held at the registered offices of the company, in Jersey City, New Jersey, on June 2, at which time the board of directors was reelected. The directors then reelected the officers previously in position.

=The city of Chicago has recently purchased about 25,000 feet of fire hose for the use of the fire department. The contract for couplings for the same was awarded to The W. D. Allen Manufacturing Co., of that city. This firm have sold all the couplings used in the Chicago fire department for the last 25 years, which speaks pretty well for the Allen couplings.

=The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, have been licensed to manufacture and sell in Canada the Fisk detachable tires, the manufacture of which in the States is carried on by the Fisk Rubber Co.

=The Beacon Falls Rubber Shoe Co. (Beacon Falls, Connecticut) made no change in their selling prices to the trade on June 1.

=The Western Rubber Co. (Goshen, Indiana), after making careful tests and looking into its merits, have entered into a contract for the manufacture of the B OK tire, for motor cars, motor bicycles, and driving wagons. This is a patented tire of circular section, with a core of sponge rubber, marketed by The B-OK Tire Co., of Goshen and No. 1312 Madison avenue, Chicago.

=Work was resumed on June 6 at the rubber shoe factory of L. Candee & Co. (New Haven, Connecticut), after a shut-down which began on March 31. During this period important additions and improvements were made, some account of which was given in the last INDIA RUBBER WORLD.

=The rubber factories at Naugatuck, Connecticut, will be closed at 4 P. M. on Saturdays during the summer months, work being started an hour earlier in the morning. This plan was adopted last summer and gave general satisfaction to the employés.

=The National India Rubber Co. (Bristol, Rhode Island) are erecting a new cement building, 21x40 feet, inside measurement, of brick, with iron roof.

=The Beacon Falls Rubber Shoe Co. (Beacon Falls, Connecticut) are having plans prepared for a row of improved tenements on the west side of Naugatuck river, for the use of their employés.

=The Boston Belting Co.'s dividend No. 139, the regular quarterly dividend of \$2 per share, is payable July 1 to shareholders of record on June 18.

=The Goshen Rubber Works (Goshen, Indiana), having acquired a plant operated for several years past by N. Brown, have installed, in connection with their other business, an up to date machine shop. They are now prepared not only to take care of their own requirements in the way of making molds and doing repair work, but to accept orders from the outside. Mr. Brown has been engaged to take charge of the shop.

=The copartnership between Louis J. Mutty and Allan P. Trask, under the name of The Mutty-Trask Co., rubber goods dealers, in Boston, has been dissolved. The business will be continued by Louis J. Mutty, under the name L. J. Mutty Co., at No. 276 Devonshire street.

=Frank C. Tuttle, proprietor of the "Goodyear Rubber Store," New Haven, Connecticut, has filed a petition in bankruptcy, with schedules showing liabilities \$8913.36, and assets \$4988. William S. Pardee has been appointed receiver.

=The Elliott Manufacturing Co. (Menlo Park, New Jersey), are reported very busy producing the new golf ball patented by their president, Charles B. Elliott, which is meeting a satisfactory sale.

=The Single Tube Automobile and Bicycle Tire Co. have filed suit in the United States circuit court in the district of Massachusetts, against the Equitable Distributing Co., of Boston, alleging infringement of the "Tillinghast" patent, No. 497,971, on single tube tires. The Continental Rubber Works

(Erie, Pennsylvania) announce that no suit thus far brought under this patent affects them.

=A judgment for \$26,960 was entered in the New York county clerk's office on June 14, against the American Pneumatic Horse Collar Co., on an attachment in favor of George E. Relyea, on notes made by the company in Detroit, Michigan, in 1903. The company is incorporated in New Jersey, with \$2,000,000 capital.

=The Woonsocket Rubber Co. announce that their two factories will be closed between August 5 and August 18.

=The organization of the Imperial Rubber Co., (Beach City, Ohio), mentioned in the last INDIA RUBBER WORLD, has been completed, with the election of Charles W. Stahl president and J. C. Keplinger secretary. This company is the result of combining the Canton Hard Rubber Co., late of Canton, Ohio, and the Tuscarora Rubber Co., of Beach City. The capital is \$100,000 and hard and soft rubber goods will be made.

=B. F. Sturtevant Co. announce the removal of their entire plant from Jamaica Plain to their new works at Hyde Park, Massachusetts. With nine acres of floor space and all the modern appliances, they will continue to manufacture the well-known Sturtevant products: Blowers, engines, motors, economizers, forges, steam heating, ventilating and drying apparatus, etc.

=The Naugatuck Chemical Co., incorporated in New Jersey, with \$100,000 capital, have purchased the Beach property of the United States Rubber Co. at Naugatuck, Connecticut, and will erect a plant on the premises.

=Mr. Webster Norris has been appointed superintendent of the factory of The Republic Rubber Co. (Youngstown, Ohio), to date from July 1.

=The Easthampton Rubber Thread Co. (Easthampton, Massachusetts) were the successful bidders for supplying 5000 pounds of rubber bands for the United States postoffice department and postal service, for the fiscal year 1904-05, under the recent advertisement of the department. The specifications call for 500 pounds No. 11; 1500 pounds No. 14; 1500 pounds No. 16; 500 pounds No. 19; 1000 pounds No. 31.

=The Portland (Maine) Retail Shoe and Leather Association, at a meeting on June 9, voted to maintain a scale of prices on rubber footwear based upon manufacturers' prices.

=In the matter of North American Rubber Co., bankrupts, a hearing to which the creditors were invited, before William H. Willis, referee in bankruptcy, at No. 115 Broadway, New York, on June 27, has been postponed to July 7, at 2 P. M.

=In the last issue of this Journal a suit of the Gutta Percha and Rubber Manufacturing Co. against the Peerless Rubber Manufacturing Co. for alleged infringement of patent, No. 543,583, on rubber floor tiling, was mentioned as having been "settled out of court". The defendants in the case advise THE INDIA RUBBER WORLD that there was no effort at settlement on their part; in fact, that there was no settlement made other than the answer of their attorneys, citing an early English patent which so clearly anticipated the patent above referred to, that the suit was withdrawn.

=An attachment for \$1,000,000 has been placed upon the property of John J. Banigan, Westerly, Rhode Island, on the suit of Charles A. Borland, a Boston lawyer, alleging breach of contract. The writ was sworn to before the chief justice of the United States Supreme Court. The suit is against Mr. Banigan as a member of the brokerage firm of Prindle, Weeden & Co., who did business formerly at Providence. One member of the firm was Leonard Imboden, some reference to whom appeared in THE INDIA RUBBER WORLD August 1, 1903 (page 395), under the heading "After a Rubber Man's Money?"

=The rubber store of Robert Josselyn, No. 24 School street, Boston—known as the "Goodyear Rubber House"—was damaged by fire on June 27, to the extent of \$5000.

=The regular quarterly dividend of 2 per cent. of the Hood Rubber Co. was payable June 13.

PERSONAL MENTION.

PRINCE PU LUN, the heir apparent to the Chinese throne, on his recent tour of the United States, as Chinese commissioner to the St. Louis exposition, visited the factory of the Indianapolis Rubber Co., the first rubber goods factory he had ever seen.

=The employes of the Boston Rubber Shoe Co., after the death of the Hon. Elisha S. Converse, raised about \$100 in each of the two factories, no contribution exceeding 10 cents, with the idea of buying flowers for the funeral. This idea was dropped, however, with a view to using the funds for the erection at each factory of a bronze memorial tablet commemorating the leading events of Mr. Converse's life.

=It having been generally reported that Mr. Charles R. Flint, of New York, had purchased two warships from Chile, the Chilean minister at Washington, on June 1, stated that the arrangements for the sale had been suspended because Mr. Flint's agent would not tell what country the ships were to be turned over to, and Chile was unwilling to violate her neutrality declaration by having them go to either Russia or Japan.

=Mr. H. D. Warren, president and treasurer of The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, is at present in Europe, with his family.

=Joseph S. Stout, of the firm of Stout & Co., bankers and brokers of New York, died June 28, in his fifty-eighth year. He was connected with a number of important businesses and institutions, including the Hodgman Rubber Co. (New York), of which he was a director and the treasurer.

=Elliot Burris, who died at his home in Morristown, New Jersey, on May 27, in his fifty-sixth year, was at one time actively interested in the rubber tire trade, after which he managed the Humber bicycle plant at Westboro, Massachusetts. During his later years he was a stock broker, with offices in New York.

=Charles S. Mersick, president of the Merchants' National Bank of New Haven, Connecticut, who died on June 24, was also the head of the hardware firm of C. S. Mersick & Co., of the same city, with branches in other cities, and sole New England agents for The B. F. Goodrich Co., rubber manufacturers, of Akron, Ohio.

=It will be learned with regret that Mr. Thomas Rowland Western, cashier of the Manufacturers' Advertising Bureau, (New York), of which Benjamin R. Western, his father, is the proprietor, died suddenly on Sunday, May 22 after an illness of only a few days. Mr. Western was of a genial and accommodating disposition and will be missed by many friends.

=Rollin A. Edwards, manager of the rubber department of Haynes, Sparrell & Co., boot and shoe jobbers of Boston, died on June 4, in his fifty-fifth year.

AMERICAN CHICLE CO.

THE annual meeting of shareholders will be held at the company's registered office in New Jersey—No. 15 Exchange place, Jersey City—at 12 M., July 19. The company continue the payment of quarterly dividends of 1½ per cent. on the preferred shares and monthly dividends of 1 per cent. on the common shares.

SPORTS OF RUBBER WORKERS.

A LARGELY attended baseball game was played at Akron, Ohio, on June 11, between the teams of The B. F. Goodrich Co. and Republic Rubber Co. factories, the latter from Youngstown. Ten innings were played, with a score of 2 to 1 in favor of the Goodrich nine. The Goodrich team played the Akron Retail Clerks team at Akron on June 14, winning by a score of 6 to 4.

The Goodyear (Gold Seal) baseball team of the Goodyear Rubber Co. (New York) defeated the team of the Goodyear's India Rubber Glove Manufacturing Co. at Greenville, New Jersey, on June 13; score, 18 to 11. The Goodyear (Gold Seal) team would like to arrange games with any rubber company's team within 25 miles of New York. Address A. J. Reisner, No. 787 Broadway, New York.

The annual picnic of the Goodyear Tire and Rubber Co.'s employes occurred at Akron on June 16.

REVIEW OF THE CRUDE RUBBER MARKET.

DURING the first part of the month just closed the market was inactive and all grades experienced a decline in price. More recently, however, the market has shown greater firmness, with a tendency to an advance in prices, so that in the case of Pará grades our quotations at this date are almost on a par with those published in our last issue.

Doubtless one element in the situation has been the near approach of stock taking season which, in so many rubber factories, occurs about July 1, and just prior to which many manufacturers buy as sparingly as possible. It appears, however, that not even the disinclination of buyers has been sufficient, in view of the small stocks in all markets, to induce holders to make liberal concessions to buyers. Toward the end of the month reports were received from Amazon markets of greater firmness and higher prices.

It now appears that the Pará crop here ended with an output of something less than 1000 tons in excess of last year's figures, and only a little more than the highest output of any year in the past. The figures which follow relate to all rubber arrivals at Pará, including Caucho:

	FROM JULY 1, 1903—	1900-01.	1901-02.	1902-03.	1903-04.
To December 31.....	tons	11,300	13,630	12,250	13,470
To May 31		26,300	28,750	28,090	29,080
To June 30.....		27,600	30,000	29,850	a 30,470

[a—To June 28, 1904.]

Receipts at Pará must now be comparatively small for two three months, at least.

The details of the latest Antwerp sale, given in another column, would suggest a declining market for Congo rubbers to a greater extent than, in the view of American experts, has been the case. That is to say, while many lots of lower grade rubbers offered at this sale sold materially lower than brokers' valuations, the rubbers were over valued, so that really good prices were paid. Some of the better grade lots sold for more than the valuation.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on June 30—the current date:

PARA.	July 1, '03.	June 1, '04.	June 30.
Islands, fine, new.....	83@89	109@110	108@109
Islands, fine, old.....	92@93	@	109@110
Upriver, fine, new.....	93@94	113@114	112@113
Upriver, fine, old.....	98@99	114@115	113@114
Islands, coarse, new	56@57	64@ 65	63@ 64

	July 1, '03.	June 1, '04.	June 30.
Islands, coarse, old.....	@	@	@
Upriver, coarse, new.....	74@73	88@ 89	87@ 88
Upriver, coarse, old.....	@	@	88@ 89
Caucho (Peruvian) sheet.....	56@57	70@ 71	66@ 67
Caucho (Peruvian) ball.....	70@71	80@ 81	76@ 77

The market for other sorts in New York, the reductions on which have been more marked, is as follows:

AFRICAN.		CENTRALS.	
Sierra Leone, 1st quality 93	@94	Esmeralda, sausage... 73	@74
Massai, red..... 93	@94	Guayaquil, strip..... 62	@63
Benguella.....	@	Nicaragua, scrap... 73	@74
Cameron ball..... 63	@64	Panama, slab..... 56	@57
Accra flake..... 35	@36	Mexican, scrap..... 72	@73
Lopori ball, prime..... 93	@94	Mexican, slab..... 56	@57
Lopori strip, prime..... 89	@90	Mangabeira, sheet..... 49	@55
Ikelemba..... 94	@95	EAST INDIAN.	
Madagascar, pinky... 82	@83	Assam..... 85	@86
		Borneo.....	@

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine.....	6\$700	Upriver, fine.....	7\$800
Islands, coarse.....	3\$400	Upriver, coarse.....	5\$600

Exchange, 12d.

Last Manáos advices:

Upriver, fine.....	7\$850	Upriver, coarse.....	5\$450
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Exchange, 12½d.

NEW YORK RUBBER PRICES FOR MAY (NEW RUBBER).

	1904.	1903.	1902.
Upriver, fine.....	1.11@1.15	91@94	71 @74½
Upriver, coarse.....	86@ 90	71@73	56 @60
Islands, fine.....	1.08@1.12	87@91	70 @73½
Islands, coarse.....	65@ 69	56@60	45 @49
Cameta, coarse.....	66@ 70	60@64	51½@53

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.		PARÁ.		ENGLAND.	
	Fine and Medium.	Coarse.	Total	Total	Total
Stocks, April 30.....	254	49 =	303	555	492
Arrivals, May.....	458	261 =	719	1026	1040
Aggregating.....	712	310 =	1022	1581	1532
Deliveries, May.....	437	258 =	695	1040	980
Stocks, May 31.....	275	52 =	327	541	552

	1904.	1903.	1902.	1904.	1903.	1902.
Stocks, April 30.....	110	150	2240	495	1675	170
Arrivals, May.....	1085	2070	1580	470	650	2865
Aggregating.....	1195	2220	3820	965	2325	3035
Deliveries, May.....	1000	2105	3740	525	925	960
Stocks, May 31.....	105	115	80	440	1400	2075

	1904.	1903.	1902.
World's visible supply, May 31.....	1537	2996	3650
Pará receipts, July 1 to May 31.....	24,890	25,226	25,404
Pará receipts of Caucho, same dates.....	4204	3704	3236
Afloat from Pará to United States, May 31.....	05	500	533
Afloat from Pará to Europe, May 31.....	480	440	410

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for car-load lots—in cents per pound—show a slight decline from the last published prices, as follows:

Old Rubber Boots and Shoes—Domestic.....	5½ @ 5½
Do —Foreign.....	4¼ @ 4¼
Pneumatic Bicycle Tires.....	4 @ 4½
Solid Rubber Wagon and Carriage Tires.....	7
White Trimmed Rubber.....	8½ @ 8¾
Heavy Black Rubber.....	4
Air Brake Hose.....	2¼ @ 2¾
Fire and Large Hose.....	1¾ @ 1¾
Garden Hose.....	1½ @ 1½
Matting.....	¾ @ 1

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York) advises us as follows:

"During June the money market has continued about the same as in May, call loans ruling at 1 @ 1½ per cent., and paper being taken quite freely by city and out-of-town banks at 4½ @ 6 per cent., according to grade."

London.

EDWARD TILL & Co. [June 1] report stocks:

	1904.	1903.	1902.
LONDON { Pará sorts.....	22	13	121
{ Borneo.....	5	5	23
{ Assam and Rangoon.....	227	209	432
{ Other sorts.....	254	227	576
Total.....	254	227	576
LIVERPOOL { Pará.....	446	1402	2084
{ Caucho.....	305	243	390
{ Other sorts.....	662	376	637
Total, United Kingdom.....	1667	2248	3687
Total, May 1.....	1644	2539	3788
Total, April 1.....	1367	2525	3326

PRICES PAID DURING MAY.

	1904.	1903.	1902.
Pará fine, hard.....	4/ 9 @4/10½	3/10¼@3/10¾	2/11½@3/1¼
Do soft.....	4/ 8 @4/ 9¾	No sales.	No sales.
Negroheads, scrappy... 3/ 9	@2/11	2/ 7 @2/ 9	2/1 @2/3¼
Do Cameta... 3/ 9	@2/11	No sales.	3/0¼
Bolivian.....	4/10 @4/11	No sales.	2/ 4 @2/4½
Caucho ball.....	3/ 3¾@3/ 5	3/ 0½@3/ 0¾	2/ 4 @2/4½
Do slab.....	2/10¼@2/11	2/ 4½@2/ 6	1/11½@2/1

JUNE 17.—The market for Pará sorts has shown increased depression, prices having declined in a fortnight about 1½d. per pound. Toward the close, however, renewed firmness has prevailed, and most of the drop has been recovered. A fair business has been done, including fine hard down to 4s. 8½d., and since at 4s. 9d. and buyers, chiefly new delivery. Medium kinds have met a rather slow demand, being influenced by the dullness of Pará, and little business has been done. No auction this week.

Ceylon.—At the auction on June 10, twenty-four packages were offered and sold. Fine biscuits (from Pará seed) sold at 5s. @ 5s. 1d.; fair to good, but dark in color, at 4s. 9d. @ 4s. 10d.; scrap, good to fine clean, at 4s. 5d. @ 4s. 5½d.

Bordeaux.

PRICES JUNE 18—FRANCS PER KILOGRAM.

Conakry niggers, red. 10 50@10.60	Lahou twists.....	9. @ 9.15
Soudan niggers..... 9 80@10.20	Lahou niggers.....	8.90@ 9
Soudan twists..... 9. @ 9 30	Lahou cakes.....	8. @ 8 10
Cassamance, A P... 8. @ 8.25	Madagascar:	
Cassamance, A..... 7 25@ 7.35	Majunga.....	7. @ 7.75
Cassamance, A M... 6.15@ 6 20	Tamatave.....	8.50@ 9 10

[10 francs per Kilo=87½ cents per Pound.]

STOCKS same date, 31,110 kilograms, including Balata 2000.

R. HENRY.

Rubber Receipts at Manaos.

DURING May and the first eleven months of the crop season for three years [courtesy of Messrs. Witt & Co.]:

FROM—	MAY.		JULY-MAY.		
	1904.	1903.	1904.	1903.	1902.
Rio Purús—Acre.....	358	420	360	5883	5912
Rio Madeira.....	113	89	62	2641	2249
Rio Jurua.....	185	183	137	3644	3576
Rio Javary—Iquitos.....	13	29	88	2219	1502
Rio Solimões.....	20	43	22	828	1348
Rio Negro.....	46	16	13	468	651
Total.....	735	780	682	15,683	15,238
Caucho.....	632	596	498	3800	3354
Total.....	1367	1376	1180	19,483	18,592

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The values of Pará rubber having declined 2 to 3 pence per pound since our sale in May, the Antwerp sale which took place on June 14 showed some decline. The finer grades, especially Kasais, declined only 10 @ 20 centimes, whereas Upper Congos—partially sticky and ill conditioned—were 25 @ 50 centimes lower. The average may be calculated at 30 centimes, or about 3 per cent., decline on May values. The quantity sold—270 tons out of 292 offered—is very satisfactory. The principal lots sold were:

	Valuation.	Sold at.
70 tons Upper Congo balls	francs 10.25	9.75
13 " Uelé strips.	9.80	9.65 @ 9.75
15 " Lake Leopold II.	9.40	9.45 @ 9.47½
14 " Aruwimi pieces.	9.55	9.55
18 " Lomami strips.	10.60	10.02½ @ 10.10
6 " Prime Red Kasai.	11.15	11.10
20 " Kasai—Loanda.	10.	9.90
19 " Kasai—Loanda, Sankuru.	9.67½	9.32½

The next sale will take place on July 8, when about 400 tons will be catalogued.

C. SCHMID & CO., SUCCESSEURS.

Antwerp, Belgium June 16, 1904.

ANTWERP RUBBER STATISTICS FOR MAY.

DETAILS.	1904.	1903.	1902.	1901.	1900.
Stocks, Apr. 31. kilos	441,621	488,799	500,664	813,818	821,820
Arrivals in May.	737,526	352,833	537,536	356,915	445,062
Congo sorts	605,086	377,725	489,002	315,382	346,448
Other sorts	52,440	75,108	47,534	41,533	98,614
Aggregating.	1,179,147	841,632	1,038,200	1,170,733	1,266,882
Sales in May.	436,932	499,040	573,525	345,291	389,256
Stocks, May 31.	742,215	342,592	464,675	825,442	877,626
Arrivals since Jan. 1	2,554,426	2,104,704	2,346,859	2,543,593	2,729,287
Congo sorts	2,128,132	1,888,264	2,188,328	2,267,238	2,245,718
Other sorts.	426,294	216,440	158,531	276,355	483,569
Sales since Jan. 1.	2,423,111	2,420,217	2,296,893	2,332,190	2,143,652

RUBBER ARRIVALS AT ANTWERP.

MAY 25.—By the *Anversville*, from the Congo:

M. S. Cois.	kilos	9,300
Société Coloniale Anversoise	(Süd Kamerun)	6,000
Do	(La Lulonga)	6,000
Do	(Belge du Haut Congo)	10,300
Do	(Cie. de Lomami)	9,200
Bunge & Co	(Société Générale Africaine)	183,000
Do	(Chemins de fer des Grand Lacs)	2,500
Do	(Société Anversoise)	50,300
Do	(Société Isangi)	7,500
Do	(Cie. du Kasai)	52,400
Société A B I R		88,000
Comptoir Commercial Congolais.		40,000
Société Equatoriale Congolaise.		2,000
Cie. Commerciale des Colonies.		1,100

TRADE

"PURETE"

MARK.

Elliott Manufacturing Co.,

MENLO PARK, NEW JERSEY.

MANUFACTURERS OF

Dress Shields, Dress Shield Stock,

Oil Proof Hospital and Nursery Sheeting, Dental

Dam, Surgical Bands, and the

"Elliott Get There" Golf Ball.

Washing, Refining, and Calendering for the Trade.

Mention The India Rubber World when you write.

Charles Dethier	(Société Belgika)	1,000
Comptoir des Produits Coloniaux.		5,000 473,600

JUNE 13.—By the *Leopoldville*, from the Congo:

Bunge & Co.	(Société Général Africaine)	kilos	112,000
Do	(Chemins de fer des Grand Lacs)		11,500
Do	(Société Isangi)		3,200
Do	(Sultanats du Haut Obangi)		11,000
Bunge & Co.	(Société "La Kotto")		800
Do	(Société Anversoise)		24,200
Société Equatoriale Congolaise. (Société L'Ikelemba)			2,000
Société A B I R			44,600
Société Coloniale Anversoise. (Belge du Haut Congo)			2,400
Do	(Cie. du Kasai)		2,200
Do	(Cie. de Lomami)		6,800
M. S. Cois.			7,900
W. Mallinckrodt & Co.	(Alimalenne)		5,000
Comptoir des Produits Coloniaux.			2,000
Charles Dethier	(La Haut Sangha)		16,000 251,600

IMPORTS FROM PARA AT NEW YORK

[The Figures Indicate Weights in Pounds.]

June 3.—By the steamer *Dominic*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauch.	Total.
A. T. Morse & Co.	18,200	2,300	47,700	9,500=	77,700
New York Commercial Co.	44,200	7,500	19,700	2,900=	74,300
Poel & Arnold.			35,200	36,300=	71,500
United States Rubber Co.				41,000=	41,000
Meyer & Busweiler *	3,400		2,700		6,100
Hagemeyer & Brunn.	3,300	1,200	1,300		5,800
Lionel Hageners & Co.	3,700		1,100		4,800
Total.	72,800	11,000	107,700	89,700=	281,200

June 14.—By the steamer *Maranhense*, from Manáos and Pará:

United States Rubber Co.				125,000=	125,000
Poel & Arnold.		6,000	43,800	55,800=	105,600
A. T. Morse & Co.	21,500	9,600	33,100		64,200
New York Commercial Co.	8,600	2,100	28,400	300=	39,400
Meyer & Busweiler *	8,400		4,000		12,400
Lionel Hageners & Co.	7,600		2,800		10,400
Lawrence Johnson & Co.				9,900=	9,900
G. Amsinck & Co.	3,400		2,700		6,100
Total	49,500	17,700	114,800	191,000=	373,000

June 24.—By the steamer *Grangense* from Manáos and Pará:

A. T. Morse & Co.	17,400	2,500	63,400	42,600=	125,900
United States Rubber Co.				64,400=	64,400
New York Commercial Co.	11,500	2,000	19,100	11,400=	44,000
Poel & Arnold		4,500	24,900		29,400
G. Amsinck & Co.	7,700	1,400	5,500		14,600
Edmund Reeks & Co.	5,000		3,900		8,900
Lionel Hageners & Co.	4,200		1,400		5,600
Total.	45,800	10,400	118,200	118,400=	292,800

* [Shipment connected with failure of William Wright & Co.]

[NOTE.—The steamer *Benedict*, from Pará due at New York on July 5, carries 40 tons of Rubber and Cauch.]

FOR SALE.

LOT SECOND HAND HYDRAULIC PRESSES AND PUMPS AT BARGAIN PRICES.

OLD MACHINERY PURCHASED.

WALSH'S SONS & CO., Newark, N. J.

[569]

WANTED.

HOSE VULCANIZER.—Will purchase second hand, if in good order and condition. Address, with full particulars, P. O. Box 257, WILMINGTON, DELAWARE. [588]

TO MANUFACTURERS.

MANUFACTURERS of Mechanical Goods, Clothing, Sundries, etc., who desire to increase their business at small expense by adding a shoe department, can secure an experienced Superintendent and also an experienced Manager and Salesman both capable with the recent large advance in prices to show a profitable business from the start. Best references. Address S. C., P. O. Box 3488, Boston, Mass. [547]

PARA RUBBER VIA EUROPE.

MAY 25.—By the <i>Oceanic</i> =Liverpool:	
Charles Ahrenfeldt & Son (Caucho).	22,000
MAY 25.—By the <i>Yucatan</i> =Mollendo:	
Chicago Bolivian Rubber Co. (Fine).	4,000
JUN. 1.—By the <i>Prins Willem</i> =La Guayra:	
Thebaud Brothers (Fine).	3,500
Thebaud Brothers (Coarse).	2,500
For Hamburg (Coarse).	1,500
JUN. 16.—By the <i>Maraval</i> =Bolívar:	
Kunhardt & Co. (Coarse).	2,000
Middleton & Co. (Fine).	1,800
Thebaud Brothers (Fine).	1,500
JUN. 22.—By the <i>Yucatan</i> =Mollendo:	
Filat & Co. (Caucho).	11,000
Chicago Bolivian Rubber Co. (Fine).	3,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

MAY 24.—By the <i>Altai</i> =Savannah, etc.:	
G. Amsinck & Co.	1,100
Kunhardt & Co.	500
Graham, Hinkley & Co.	700
Banco de Exportaciones	300
John Boyd, Jr. & Co.	400
J. A. Paul & Co.	200
A. D. Straus & Co.	300
For Havre.	3,500
MAY 25.—By the <i>Yucatan</i> =Colon:	
G. Amsinck & Co.	6,700
E. B. Strout	6,400
American Trading Co.	5,300
Koldan & Van Sickle	2,000
A. M. Capons & Sons	1,300
Lawrence Johnson & Co.	1,500
Meyer Hecht	1,500
A. Santos & Co.	1,300
Alberto Dumarest	1,000
Isaac Brandon & Bros.	1,300
A. Rosenthal & Sons	800
Jimenez & Escobar	700
Maldonado & Co.	300
MAY 25.—By the <i>Oceanic</i> =Liverpool:	
Hirsch & Kaiser	19,200
Lawrence Johnson & Co.	3,500
MAY 25.—By the <i>Matanzas</i> =Mexico:	
Graham, Hinkley & Co.	2,200
Harburger & Slack	2,000
L. N. Chemedin & Co.	800
James Bondy Sons	500
J. W. Wilson & Co.	200
For Europe.	16,600
MAY 27.—By the <i>El Alba</i> =New Orleans:	
A. N. Rotholz	7,000
G. Amsinck & Co.	7,000
A. T. Morse & Co.	5,000
Manhattan Rubber Mfg. Co.	3,000
MAY 28.—By the <i>Yumuri</i> =Mexico:	
George A. Alden & Co.	15,500
H. Marquardt & Co.	3,300
E. Steiger & Co.	700
E. N. Tibbals & Co.	500
L. N. Chemedin & Co.	600
JUN. 1.—By the <i>Sarnia</i> =Port Limon:	
Graham, Hinkley & Co.	2,000
Isaac Kubie & Co.	1,500
C. Delgado	600
D. A. De Lima & Co.	700
Isaac Brandon & Bros.	600
For London.	3,000
JUN. 1.—By the <i>City of Washington</i> =Colon:	
Hirzel, Feltman & Co.	6,800
George A. Alden & Co.	4,400
Piza, Nephews & Co.	2,400
Meyer Hecht	1,200
Silva, Bussenius & Co.	1,000
Eggers & Heinlein	800
L. Johnson & Co.	600
G. Amsinck & Co.	500
A. N. Rotholz	300
Lauman & Kemp	200
R. G. Barthold	200
JUN. 2.—By the <i>Moorish Prince</i> =Bahia:	
J. H. Rossbach & Bros.	22,500
Hirsch & Kaiser	12,500
JUN. 3.—By the <i>El Cid</i> =New Orleans:	
Manhattan Rubber Mfg. Co.	17,000
JUN. 4.—By the <i>Vigilancia</i> =Mexico:	
E. Steiger & Co.	2,500
H. Marquardt & Co.	4,500
E. N. Tibbals & Co.	800
American Trading Co.	1,000

CENTRALS—Continued.

JUN. 6.—By the <i>Umbria</i> =Liverpool:	
George A. Alden & Co.	9,000
JUN. 7.—By the <i>Alleghany</i> =Greyltown, etc.:	
E. B. Strout	3,000
A. D. Straus & Co.	1,500
D. A. De Lima & Co.	2,000
Mecke & Co.	1,800
Pedro A. Lopez	1,000
Isaac Brandon & Bros.	700
G. Amsinck & Co.	800
JUN. 8.—By the <i>Segurana</i> =Colon:	
Hirzel, Feltman & Co.	13,000
G. Amsinck & Co.	4,700
Koldan & Van Sickle	3,800
L. Johnson & Co.	2,700
A. Santos & Co.	1,500
Dumarest & Co.	1,500
Meyer Hecht	1,900
Isaac Brandon & Bros.	1,100
Livingstone & Co.	1,100
Eggers & Heinlein	1,000
Silva Bussenius & Co.	1,000
Everett Heaney & Co.	500
Isaac Kubie & Co.	700
A. M. Capen Sons	700
American Trading Co.	300
JUN. 9.—By the <i>Niagara</i> =Tampico:	
For Europe.	12,000
JUN. 9.—By the <i>Cedric</i> =Liverpool:	
George A. Alden & Co.	7,000
L. Johnson & Co.	3,500
JUN. 8.—By the <i>Titan</i> =Bahia:	
J. H. Rossbach & Bros.	34,000
Hirsch & Kaiser	26,000
A. D. Hitch & Co.	2,500
JUN. 11.—By the <i>Havana</i> =Mexico:	
Harburger & Slack	8,000
E. Steiger & Co.	1,000
For Hamburg.	7,000
JUN. 13.—By the <i>Comus</i> =New Orleans:	
A. T. Morse & Co.	12,000
A. N. Rotholz	2,000
Eggers & Heinlein	1,000
G. Amsinck & Co.	700
JUN. 15.—By the <i>Alliance</i> =Colon:	
Hirzel, Feltman & Co.	6,100
G. Amsinck & Co.	3,700
Meyer Hecht	3,600
E. B. Strout	2,600
W. Loalza & Co.	400
JUN. 15.—By the <i>Siberia</i> =Port Limon:	
G. Amsinck & Co.	1,500
Graham Hinkley & Co.	1,000
Suzarte & Whitney	700
Isaac Brandon & Bros.	700
A. D. Straus & Co.	800
D. A. De Lima & Co.	500
JUN. 18.—By the <i>Monterey</i> =Mexico:	
Fred. Probst & Co.	2,000
Graham, Hinkley & Co.	2,000
L. N. Chemedin & Co.	1,000
Isaac Kubie & Co.	700
H. Marquardt & Co.	600
E. Steiger & Co.	500
JUN. 20.—By the <i>Byron</i> =Bahia:	
J. H. Rossbach & Bros.	75,000
Hirsch & Kaiser	9,000
A. D. Hitch & Co.	5,000
JUN. 20.—By the <i>Proteus</i> =New Orleans:	
A. T. Morse & Co.	3,700
Eggers & Heinlein	2,300
A. S. Lascellas & Co.	700
JUN. 21.—By the <i>Valencia</i> =Greyltown:	
G. Amsinck & Co.	2,500
Andreas & Co.	500
Livingstone & Co.	500
Graham, Hinkley & Co.	500
JUN. 22.—By the <i>Yucatan</i> =Colon:	
G. Amsinck & Co.	8,700
Hirzel, Feltman & Co.	4,100
A. Santos & Co.	4,000
Meyer Hecht	3,700
L. Johnson & Co.	3,000
Dumarest Bros & Co.	2,100
Livingstone & Co.	2,900
A. D. Straus & Co.	1,500
A. Rosenthal & Sons	1,300
Koldan & Van Sickle	1,000
J. Menendez & Co.	200

AFRICANS.

MAY 24.—By the <i>Finland</i> =Antwerp:	
Poel & Arnold	80,000
A. T. Morse & Co.	33,000

AFRICANS—Continued.

Joseph Cantor	20,000
George A. Alden & Co.	12,500
Robinson & Tallman	4,500
MAY 25.—By the <i>Oceanic</i> =Liverpool:	
George A. Alden & Co.	20,000
United States Rubber Co.	18,000
Rubber Trading Co.	3,000
MAY 27.—By the <i>Pretoria</i> =Hamburg:	
A. T. Morse & Co.	11,500
Poel & Arnold	7,500
MAY 28.—By the <i>Lucania</i> =Liverpool:	
A. T. Morse & Co.	11,000
Rubber Trading Co.	7,000
Poel & Arnold	2,000
MAY 31.—By the <i>Moltke</i> =Hamburg:	
Poel & Arnold	21,000
JUN. 1.—By the <i>Vaderland</i> =Antwerp:	
Poel & Arnold	68,000
Rubber Trading Co.	60,000
JUN. 2.—By the <i>Teutonic</i> =Liverpool:	
United States Rubber Co.	51,000
Henry A. Gould, Co.	3,500
JUN. 2.—By the <i>Graf Waldersee</i> =Hamburg:	
A. T. Morse & Co.	36,000
Poel & Arnold	7,000
JUN. 6.—By the <i>Umbria</i> =Liverpool:	
Poel & Arnold	22,000
A. T. Morse & Co.	5,000
JUN. 7.—By the <i>Kronland</i> =Antwerp:	
Poel & Arnold	34,000
Rubber Trading Co.	11,000
JUN. 10.—By the <i>Cedric</i> =Liverpool:	
United States Rubber Co.	57,000
Rubber Trading Co.	11,000
A. T. Morse & Co.	3,500
JUN. 13.—By the <i>Peninsular</i> =Lisbon:	
United States Rubber Co.	67,000
JUN. 16.—By the <i>Georgic</i> =Liverpool:	
George A. Alden & Co.	67,000
JUN. 16.—By the <i>Pennsylvania</i> =Hamburg:	
A. T. Morse & Co.	18,000
JUN. 20.—By the <i>Arabic</i> =Liverpool:	
United States Rubber Co.	56,000
Poel & Arnold	9,000
EAST INDIAN.	
MAY 27.—By the <i>Wildenfels</i> =Calcutta:	
J. H. Recknagel & Son.	4,500
MAY 31.—By the <i>Germanic</i> =London:	
Poel & Arnold	21,000
MAY 31.—By the <i>Albenga</i> =Singapore:	
Muller, Schall & Co., Wright assignee	37,000
Poel & Arnold	52,000
Pierre T. Betts	17,000
JUN. 6.—By the <i>St. Paul</i> =London:	
Poel & Arnold	25,000
JUN. 6.—By the <i>Hong Wan I</i> =Singapore:	
Poel & Arnold	35,000
Winter & Smillie	11,000
JUN. 11.—By the <i>Kennebec</i> =Singapore:	
Winter & Smillie	9,000
Robert Brans & Co.	14,000
Pierre T. Betts	10,000
William McKerrow & Co.	7,000
JUN. 11.—By the <i>Philadelphia</i> =London:	
Poel & Arnold	15,000
JUN. 16.—By the <i>Neuenfels</i> =Calcutta:	
J. H. Recknagel & Son.	11,000
PONTIANAK.	
MAY 31.—By the <i>Albenga</i> =Singapore:	
Muller, Schall & Co.	600,000
Poel & Arnold	100,000
W. R. Russell & Co.	160,000
JUN. 6.—By the <i>Hong Wan I</i> =Singapore:	
George A. Alden & Co.	280,000
Poel & Arnold	135,000
Robert Brans & Co.	175,000
Winter & Smillie	15,000
JUN. 11.—By the <i>Kennebec</i> =Singapore:	
Winter & Smillie	390,000
W. R. Russell & Co.	80,000
George A. Alden & Co.	65,000
Robert Brans & Co.	40,000

GUTTA-PERCHA AND BALATA.

POUNDS.		
MAY 31.—By the <i>Albenga</i> =Singapore:		
Pierre T. Betts.....	4,500	
W. H. Wadleigh.....	3,000	8,000
JUN. 11.—By the <i>Kennebec</i> =Singapore:		
George A. Alden & Co.....	2,300	
Robert Brauss & Co.....	9,000	11,300
JUN. 16.—By the <i>Pennsylvania</i> =Hamburg:		
To order.....	5,000	
Traga Rubber Co.....	500	5,500
BALATA.		
MAY 24.—By the <i>Etruria</i> =Trinidad:		
George A. Alden & Co.....	3,500	
Learycraft & Co.....	5,500	
For Hamburg.....	10,000	19,000
MAY 31.—By the <i>Germanic</i> =Liverpool:		
Henry A. Gould Co.....	4,500	
JUN. 21.—By the <i>Caracas</i> =La Guayra:		
Thebaud Brothers.....	2,500	

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MAY.

Imports:		POUNDS.	VALUE.
India-rubber.....	3,575,063	\$2,590,297	
Gutta-percha.....	84,504	26,455	
Gutta-jelutong (Pontianak).....	858,893	24,884	
Total.....	4,518,510	\$2,641,636	
Exports:		POUNDS.	VALUE.
India-rubber.....	92,855	\$68,501	
Reclaimed rubber.....	168,404	20,126	
Rubber Scrap Imported.....	1,901,816	\$112,589	

BOSTON ARRIVALS.

MAY 3.—By the <i>Sylvania</i> =Liverpool:		POUNDS.
George A. Alden & Co.—African.....	66,080	
MAY 2.—By the <i>Cretic</i> =Liverpool:		POUNDS.
George A. Alden & Co.—African.....	33,505	

MAY 2.—By the <i>Cretic</i> =Liverpool:	2,315
Pool & Arnold—Central.....	
MAY 10.—By the <i>Michigan</i> =Liverpool:	6,361
George A. Alden & Co.—African.....	
MAY 11.—By the <i>Senai</i> =Calcutta:	5,435
George A. Alden & Co.—East Indian.....	
MAY 13.—By the <i>Philadelphia</i> =London:	2,097
George A. Alden & Co.—East Indian.....	
MAY 17.—By the <i>Bosnia</i> =Hamburg:	1,973
Boston Woven Hose and Rubber Co.....	
MAY 17.—By the <i>Cetrian</i> =Liverpool:	2,203
George A. Alden & Co.—Central.....	
MAY 24.—By the <i>Sachem</i> =Liverpool:	11,136
Pool & Arnold—Cauchy.....	
MAY 28.—By the <i>Sylvania</i> =Liverpool:	14,212
George A. Alden & Co.—Central.....	
Total.....	145,467

[Value, \$34,091.]

MAY EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Schrader & Co.....	11,220	1,020	36,096	—	48,336	155,902	19,851	47,600	52,664	276,022	324,358
Frank da Costa & Co.....	8,076	874	47,068	—	56,018	31,854	3,196	17,696	1,200	53,946	109,964
Adelbert H. Alden.....	21,028	3,788	14,579	1,092	40,487	12,275	1,916	16,976	713	31,880	72,367
R. Suarez & Co.....	—	—	—	—	—	52,800	11,200	4,612	—	68,612	68,612
J. Marques & Co.....	3,764	—	3,434	—	7,198	18,125	—	9,832	—	27,957	35,155
Kanthack & Co.....	—	—	—	—	—	8,251	4,405	5,065	—	17,721	17,721
Singlehurst Brockiehurst & Co	—	—	1,820	—	1,820	9,249	2,654	2,249	—	14,152	15,972
Pires, Teixeira & Co.....	3,644	—	1,245	—	4,889	—	—	—	—	—	4,889
Denis Crouau & Co.....	—	—	—	—	—	801	176	819	—	1,796	1,796
Direct from Manãos.....	70,679	17,842	29,346	87,980	205,847	177,840	31,910	59,934	152,083	421,767	627,614
Direct from Iquitos.....	—	—	—	—	—	4,224	1,450	3,285	84,896	93,555	93,555
Total for May.....	118,411	23,524	133,588	89,072	364,595	471,321	76,758	168,068	291,561	1,007,708	1,372,303
Total July-April.....	7,180,961	1,487,316	4,659,502	789,330	14,117,109	7,286,527	900,023	2,395,290	2,738,955	13,320,795	27,437,904
TOTAL SINCE JULY 1, 1903	7,299,372	1,510,840	4,793,090	878,402	14,481,704	7,757,848	976,781	2,563,358	3,030,516	14,328,503	28,810,207

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1904.....	4,956,048	217,446	4,738,602	April, 1904.....	4,710,048	2,713,984	1,996,064
January-March.....	23,266,349	909,245	22,357,104	January-March.....	16,589,216	10,119,430	6,469,786
Four months, 1904.....	28,232,397	1,126,691	27,095,706	Four months, 1904.....	21,299,264	12,833,414	8,465,850
Four months, 1903.....	20,072,501	999,095	19,073,406	Four months, 1903.....	20,578,768	13,309,744	7,269,024
Four months, 1902.....	19,789,635	1,238,134	18,551,501	Four months, 1902.....	19,686,688	10,074,960	9,611,728
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1904.....	2,954,600	629,860	2,324,740	April, 1904.....	150,700	nil.	150,700
January-March.....	9,189,180	3,149,740	6,039,440	January-March.....	447,480	25,960	421,520
Four months, 1904.....	12,143,780	3,779,600	8,364,180	Four months, 1904.....	598,180	25,960	572,220
Four months, 1903.....	12,769,240	5,073,640	7,695,600	Four months, 1903.....	640,080	25,960	614,120
Four months, 1902.....	9,933,220	3,278,220	6,655,000	Four months, 1902.....	515,020	42,460	472,560
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
April, 1904.....	1,673,540	1,204,500	469,040	April, 1904.....	297,000	nil.	297,000
January-March.....	5,971,080	3,824,260	2,147,420	January-March.....	769,340	10,340	759,000
Four months, 1904.....	7,645,220	5,028,760	2,616,460	Four months, 1904.....	1,066,340	10,340	1,056,000
Four months, 1903.....	5,559,180	2,779,260	2,779,920	Four months, 1903.....	959,640	12,320	947,320
Four months, 1902.....	6,556,440	2,766,720	3,789,720	Four months, 1902.....	916,520	1,980	914,540

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

